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A British Spitfire during World War II

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Welcome

"Where every morn brought forth a noble chance, and every chance brought forth a noble knight." A matter of weeks following Churchill's paraphrasing of Tennyson, these 'knights' were in the midst of the fight to which the prime minister also alluded. By August 1940, the Luftwaffe's campaign to destroy the RAF was in full flight, including 'Adlertag' ('Eagle Day'), during which there were 1,485 German sorties alone. To commemorate 80 years since this unparalleled moment in military history, **History of War** pays tribute not only to the airmen, but also to the thousands on the ground who sealed victory.

Tim Williamson
Editor-in-Chief

CONTRIBUTORS

TOM GARNER

This issue Tom sheds light on those among 'the Few' who crossed the Irish Sea to serve alongside their British neighbours against the Luftwaffe (p.22). In the Frontline, he explores the countdown to Victory in the Pacific (p.10).

KATE WERRAN

Kate is a journalist, broadcaster and TV and radio producer. Starting on page 70 she discusses her new book, which reveals how a shoot-out between American GIs in a small Cornish village almost ruined the 'Special Relationship'.

ANDY SAUNDERS

Andy is a widely respected author, researcher and an expert in military aviation history. On page 42 he delves into his vast collection to recount the RAF's lesser-known victory tour, which travelled the UK raising funds for Spitfires.

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OPERATOR'S HANDBOOK

60 C-130 Hercules

Discover why the USA's formidable heavy-lifting aircraft is still the backbone of world militaries

© Getty

WAR in FOCUS

"LOOK MA, NO RUNWAY!"

Taken: c.1953

A Republic F-84 Thunderjet performs a Zero-Length Launch at Edwards Air Force Base. The system was designed to launch aircraft to intercept potential Soviet threats. Instead of a runway, pilots would be blasted into flight using solid-fuel rockets. It was thought smaller launch sites would remain hidden from the enemy, however the system was never fully adopted by the US.

WAR in FOCUS

BREAKING THE SIEGE

Taken: April, 1968

Marines are pictured preparing before operations begin to relieve the outpost at Khe Sanh. From January until late April, the American base was under constant artillery attack from North Vietnamese forces. Positioned on the border with Laos, the base's garrison was outnumbered at least four-to-one during the siege, which lasted 77 days.

© Getty

TIMELINE OF...

VJ DAY

Despite the end of combat operations in Europe, the Allies' campaigns against Imperial Japan continued unabated and it would require nuclear warfare to finally end the conflict

A landing craft carries troops from US 34th Infantry Regiment up the Mindanao River to assault Fort Pikit

BATTLE OF MINDANAO 01

10 March-15 August 1945

Fought as part of the United States' campaign to liberate the Philippines, the Battle of Mindanao focuses on recapturing the southern parts of the archipelago. Much of Mindanao is retaken by American and Filipino forces but pockets of Japanese resistance continue until mid-August 1945 in the vicinity of what is now General Santos City.

BATTLE OF OKINAWA 02

1 April-22 June 1945

The largest amphibious assault of the Pacific War sees American troops fight an 82-day battle with Allied naval support on Japanese territory. The Japanese launch over 1,000 kamikaze attacks and there are hundreds of thousands of casualties, including large numbers of civilians. Although it is a US victory, the huge number of casualties later helps justify the use of nuclear weapons.

American soldiers fighting at Okinawa listen impassively to radio reports of VE Day in Europe, 8 May 1945

BORNEO CAMPAIGN 03

1 May-15 August 1945

Australian forces lead a campaign to liberate the world's third-largest island. Amphibious assaults are conducted at Balikpapan, Labuan, Tarakan and locations in north Borneo. Guerrilla operations are also conducted in the interior by Dayak tribesmen. Much of the island's infrastructure is destroyed but the campaign demonstrates Australia's effectiveness as a regional power.

Australian troops disembark from USS LST-560 at Labuan, 10 June 1945

BATTLE OF THE MALACCA STRAIT

15-16 May 1945

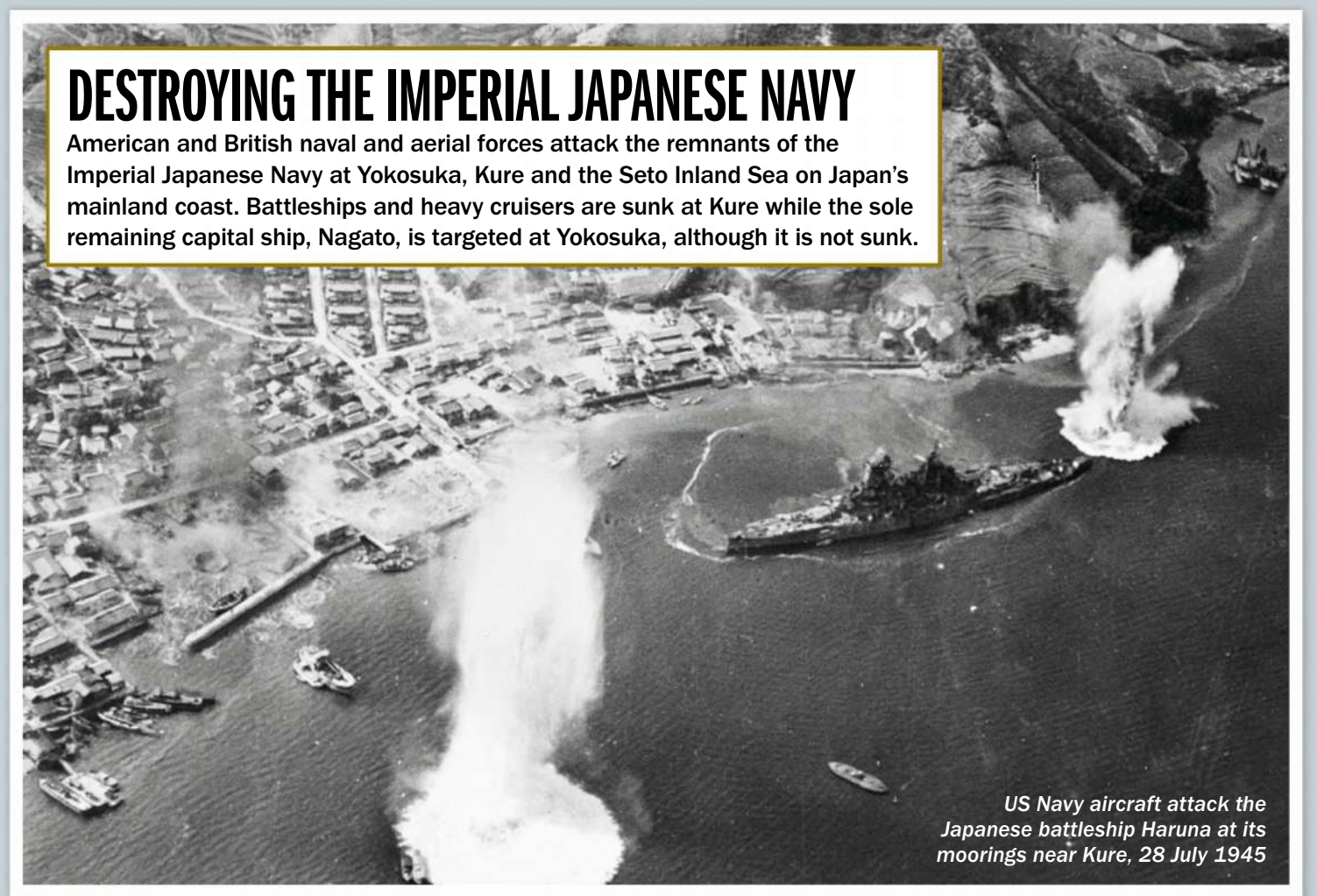
One of the last torpedo and surface gun battles of the war occurs when Royal Navy destroyers sink the Japanese heavy cruiser Haguro. Its escort, destroyer Kamikaze, is damaged but escapes although 927 Japanese sailors are killed compared to just two British naval personnel.

A picture of HMS Saumarez, one of the British ships that helped to sink Haguro

"THE HUGE NUMBER OF CASUALTIES LATER HELPS JUSTIFY THE USE OF NUCLEAR WEAPONS"

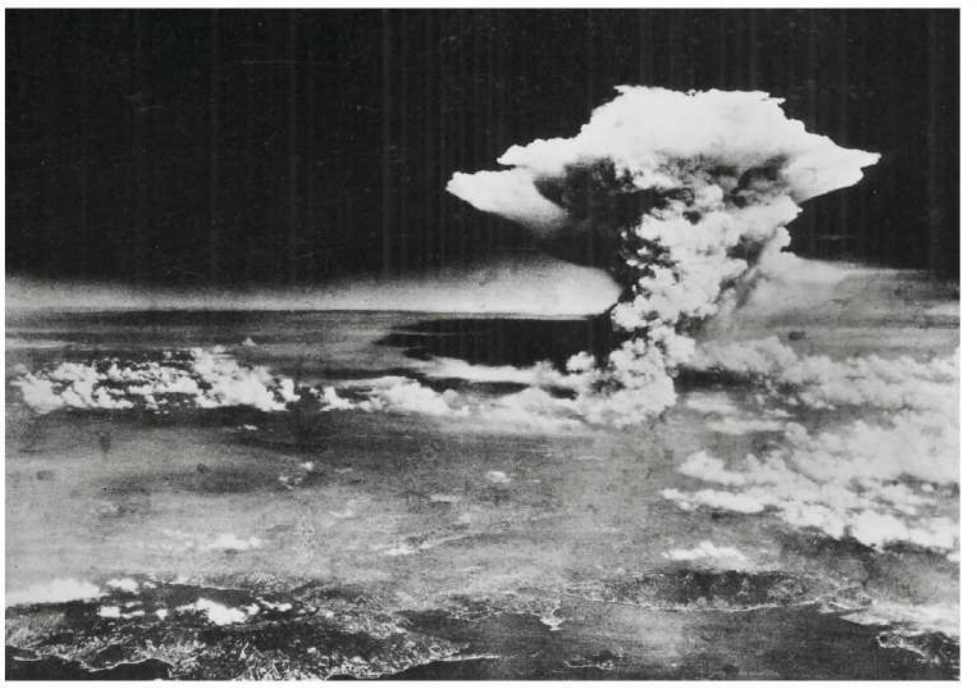
DESTROYING THE IMPERIAL JAPANESE NAVY

American and British naval and aerial forces attack the remnants of the Imperial Japanese Navy at Yokosuka, Kure and the Seto Inland Sea on Japan's mainland coast. Battleships and heavy cruisers are sunk at Kure while the sole remaining capital ship, Nagato, is targeted at Yokosuka, although it is not sunk.



US Navy aircraft attack the Japanese battleship Haruna at its moorings near Kure, 28 July 1945

ATOMIC BOMBING OF HIROSHIMA 05



The USAAF aircraft Enola Gay drops the atomic bomb Little Boy on the Japanese city of Hiroshima after Japan refuses an ultimatum to unconditionally surrender. 20,000 soldiers and 70,000-126,000 civilians are either instantly killed or subsequently die from injuries or the effects of radiation sickness.

An aerial picture of Hiroshima shortly after the bomb strike taken from Enola Gay

18-28 July 1945

6 August 1945

2 July-7 August 1945

9 August 1945

BATTLE OF THE SITTANG BEND 04

During the last major land battle of the Burma Campaign, 20,000 Japanese troops attempt to break out from encroaching British Imperial forces. The Japanese suffer casualties of 14,000 (half of them fatalities) while the Allies only lose 95 killed. The British victory is largely down to artillery and air power.

RAF Spitfire pilots of 607 Squadron return from a sortie against a Japanese pocket during the battle, July 1945

ATOMIC BOMBING OF NAGASAKI 06

Japan again refuses to surrender after Hiroshima and Kokura is selected to be bombed. Poor weather and the presence of Japanese fighters divert the American aircraft Bockscar to drop the atomic bomb Fat Man over the city of Nagasaki. 39,000-80,000 people are killed and the bombings of both Nagasaki and Hiroshima horrifically begin the Nuclear Age.

***Above:** The infamous mushroom cloud created by the atomic bomb explosion over Nagasaki in a picture taken from the B-29 Superfortress involved in the attack*

All images: Wiki / PD / CC

BATTLE OF MUTANCHIANG 07

SEISHIN OPERATION 08

SURRENDER OF JAPAN 09

ATOMIC BOMBING OF NAGASAKI 06

ATOMIC BOMBING OF HIROSHIMA 05

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BATTLE OF THE SITTANG BEND 04

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BORNEO CAMPAIGN 03

"300 JAPANESE OFFICERS AND SOLDIERS SUBSEQUENTLY KILL THEMSELVES IN A HOTEL AFTER A FAREWELL SAKE PARTY"

© Alamy

9-20 August 1945

SOVIET INVASION OF MANCHURIA

The last campaign of WWII begins when Soviet forces invade the Japanese puppet state of Manchukuo in what now encompasses parts of northeast China and Mongolia. The fighting is relatively brief but bloody with over 20,000 Japanese and around 12,000 Soviet fatalities.

Soviet sailors raise a flag in Port Arthur Bay, Manchuria

12-16 August 1945

BATTLE OF MUTANCHIANG 07

The majority of the Manchurian campaign's fighting takes place at the Chinese city of Mutanchiang. The Red Army breaks through Japanese defences in a major victory where the Soviets advance hundreds of miles and capture the city ahead of schedule. The battle and campaign are significant factors in Japan's decision to surrender.

© Getty

Japanese soldiers lay down their arms in front of a Soviet officer

13-17 August 1945

SEISHIN OPERATION 08

Soviet forces of the Northern Pacific Flotilla launch an amphibious assault against the Japanese in northern Korea. With only a few thousand men, the Soviets use aircraft and torpedo boats to take the port of Seishin. Unusually, approximately 2,500 Japanese soldiers are taken prisoner.

Soviet troops pictured in Korea

Source: Wiki / PD / CC

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Lord Louis Mountbatten announces the formal surrender of Japanese forces outside Singapore City Hall

Source: Wiki / PD / CC

OPERATION TIDERACE 10

Lord Louis Mountbatten, Supreme Allied Commander for Southeast Asia, launches Tiderace to retake Singapore from the Japanese after the disastrous British defeat in 1942. 77,000 Japanese troops are captured and Mountbatten personally receives the formal surrender. 300 Japanese officers and soldiers subsequently kill themselves in a hotel after a farewell sake party.

Source: Wiki / PD / CC

SURRENDER OF JAPAN 09

The surrender ceremony for Japan's capitulation takes place aboard USS Missouri. Japanese representatives, including the foreign minister and chief of the general staff, sign the instrument of surrender, which is accepted by US General of the Army Douglas MacArthur on behalf of the Allies. WWII is officially over.

The Japanese delegation boards USS Missouri to sign the official surrender of Japan

2 September 1945

4-12 September 1945

15 August 1945

VJ DAY

Japanese emperor Hirohito broadcasts the news of Japan's surrender to Allied forces on the radio. US President Harry S. Truman confirms the capitulation later that day and large celebrations break out across the world in a similar vein to the previous VE Day. VJ Day marks the effective end of WWII.

Huge crowds celebrate VJ Day in New York

Source: Wiki / PD / CC

TARAKAN 1945

Australian-led Allied forces carried out amphibious landings against Japanese forces on an Indonesian island that began the Borneo Campaign

Inset above, left to right: *A Royal Australian Navy Commando, operating an Aldis lamp during the landing on the island. Members of C Company, 2/48 Infantry Battalion move forward past a C Squadron, 2/9 Armoured Regiment Matilda tank*

Inset above, left to right: *Royal Australian Engineers personnel crouch behind a Matilda tank. Members Of 2/23Rd Infantry Battalion in their Bren gun pit*

An American landing craft fires rockets towards the beach on Tarakan while they carry Australian infantrymen to their landing zone, 1 May 1945

© Getty

During the war in the Far East, Allied efforts against Imperial Japan were overwhelmingly led by American forces although British campaigns, particularly in Burma, were also substantial. However, Australia was the leading force in the campaign to retake Borneo. This was no easy task because Borneo is the third largest island in the world and covered in tropical rainforests, mangroves and swamps.

Before WWII, Borneo had been split between British and Dutch colonial rule. The Dutch East Indies controlled the vast majority of the island but it was swiftly conquered and occupied by the Japanese in early 1942. It would be over three years before the Allies could contemplate retaking Borneo with their plan being codenamed 'Operation Oboe'. The first objective for Oboe was Tarakan, a small island off Borneo's northeast coast that was a significant centre for oil production. From a strategic perspective, Tarakan was home not just to significant supplies of oil but also an airfield that could be used to assist the Allies as they progressed south through the island towards the Java Sea.

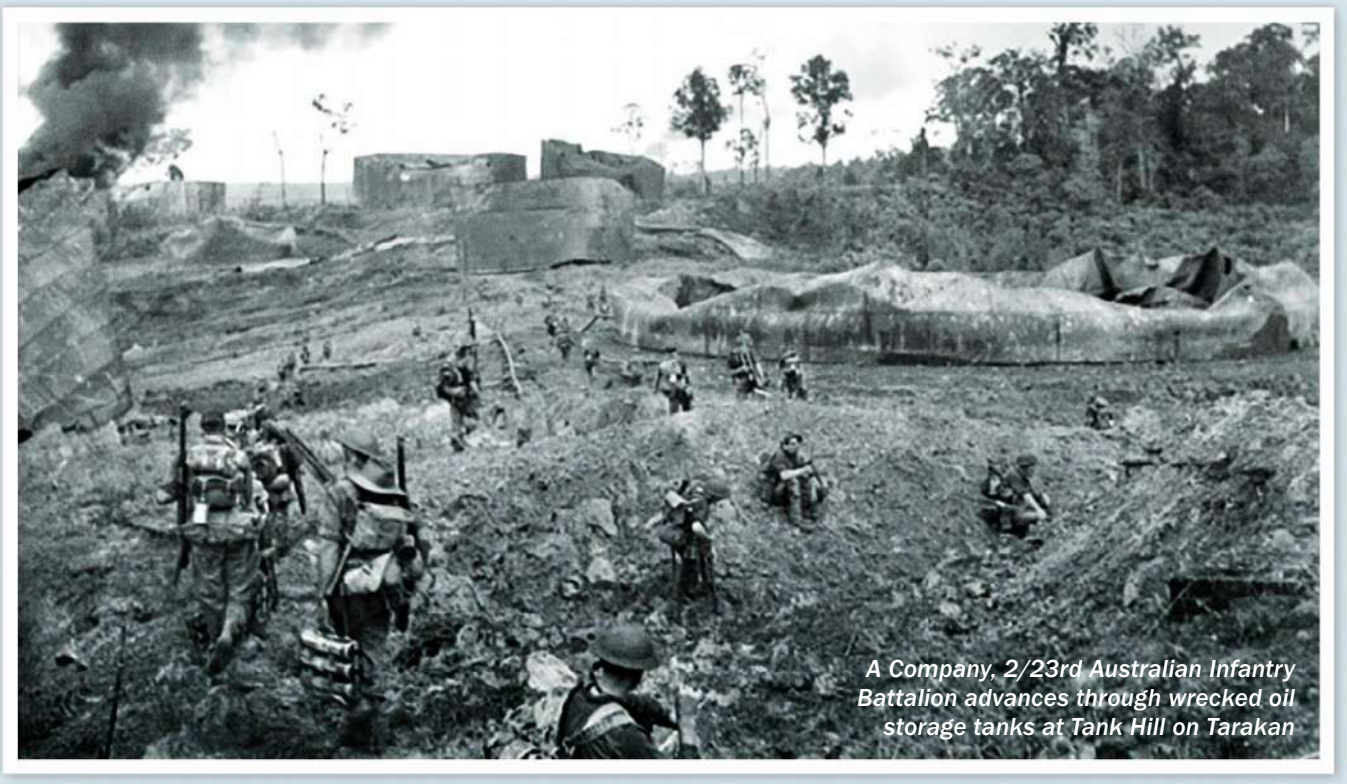
Responsibility for taking Tarakan was given to Australian 26th Brigade Group, a highly experienced force that had seen action in North Africa and New Guinea. The 26th Brigade formed the nucleus of the Allied force that would make an amphibious landing on Tarakan but there were also 1,000 American and Dutch troops, which boosted the Allied force to over 15,500 men commanded by Brigadier David Whitehead.

Confronting the Allies were around 2,200 troops that were drawn from both the Imperial Japanese Army and Navy. Despite being heavily outnumbered, the Japanese had spent considerable time reinforcing their defensive positions. This was largely done with the laying of mines and the Japanese were largely concentrated at the port of Lingkas, which was also the location of the only beaches suitable for amphibious landings. They were pre-warned of the invasion due to an Allied naval and air bombardment of the island from 11 April 1945. This was largely due to the need for the Allies to clear as many mines as possible off Lingkas and so a surprise attack was never planned.

Landings, resistance and delays

In the early hours of 1 May 1945, the amphibious landings on Tarakan began. Codenamed 'Operation Oboe One', the invasion was the first stage of the Borneo Campaign. The 2/23rd and 2/48th Australian Infantry Battalions led the vanguard by landing ashore under the cover of a heavy naval barrage. There was initially little resistance and the Allies deployed pontoons on the beach so that supplies could be easily off-loaded.

The Australian battalions began to move inland but they encountered increasingly stiff Japanese resistance, particularly around Tarakan's airfield, which was not captured until 5 May. This was the Allies' main objective but the airstrip had been heavily damaged by Japanese sabotage and the rest of the island still had to be taken. The amphibious landings proved to be the easy part of the battle when the Australians proceeded to move into the heavily defended forested hills.



A Company, 2/23rd Australian Infantry Battalion advances through wrecked oil storage tanks at Tank Hill on Tarakan

Booby traps and hidden mines littered the island while Australian tanks could only make limited progress through the jungle. Using artillery and air support, the Allied infantry slowly cleared the island by taking various features and Japanese positions. Fierce fighting occurred and Australian soldier Corporal John Mackey was posthumously awarded the Victoria Cross after capturing three Japanese machine-gun posts before he was mortally wounded.

The Allied soldiers continued to receive naval support from American and Australian ships that sank over a dozen small enemy vessels off Tarakan and destroyed a Japanese battery on the island's northeast coast. The battle raged for weeks until Brigadier Whitehead was able to declare the island secure on 21 June.

Meanwhile, the Royal Australian Air Force attempted to quickly repair Tarakan's airfield to support the main invasion of Borneo. It did not become operational until 28 June, which was too late to support major landings on the mainland. However, the local oilfields were quickly repaired with production soon resuming for the Allies.

Despite securing the island in June 1945, pockets of Japanese resistance continued on Tarakan until the surrender of Japan in August. Over 1,500 Japanese troops were killed but 252 were also captured. 225 Australians had died during the battle with approximately 700 wounded. This made the Battle of Tarakan the most costly engagement for the Allies during the Borneo Campaign.

ROYAL NETHERLANDS EAST INDIES ARMY

DESPITE THE OCCUPATION OF BOTH THE NETHERLANDS AND ITS FAR EAST COLONIES, DISPLACED DUTCH TROOPS CONTINUED TO FIGHT THE JAPANESE IN CAMPAIGNS THROUGHOUT INDONESIA

Founded in 1814, the Koninklijk Nederlands Indisch Leger (Royal Netherlands East Indies Army) was the military force that maintained Dutch colonial rule in the Netherlands East Indies (NEI). Abbreviated to 'KNIL', the army's remit at the start of WWII was to provide security to an Indonesian archipelago that was home to over 60 million people. The NEI was also materially rich in rubber, tin, quinine and oil. The latter was important to the Japanese who defeated the Dutch during a swift campaign in 1941-42.

The KNIL had already been weakened by the German occupation of the Netherlands. At the beginning of the war, its volunteer force consisted of around 85,000 personnel with most of the officers and NCOs being European Dutchmen. Many of these were taken prisoner by the Japanese and so guerrilla fighting was often left to indigenous soldiers, many of whom were Javanese.

Largely cut off from external Dutch assistance, the KNIL were supplemented by Dutch expatriates and mostly came under the command of Australians. This force, although small in number, took part in the Battle of Timor during 1942-43 as well as the New Guinea and Borneo campaigns. During the Battle of Tarakan, the KNIL contribution consisted of an indigenous infantry company from Ambon Island that was commanded by Dutch officers as well as a unit that was responsible for civil affairs.

KNIL troops march along Swanston Street in Melbourne, Australia, 14 June 1943

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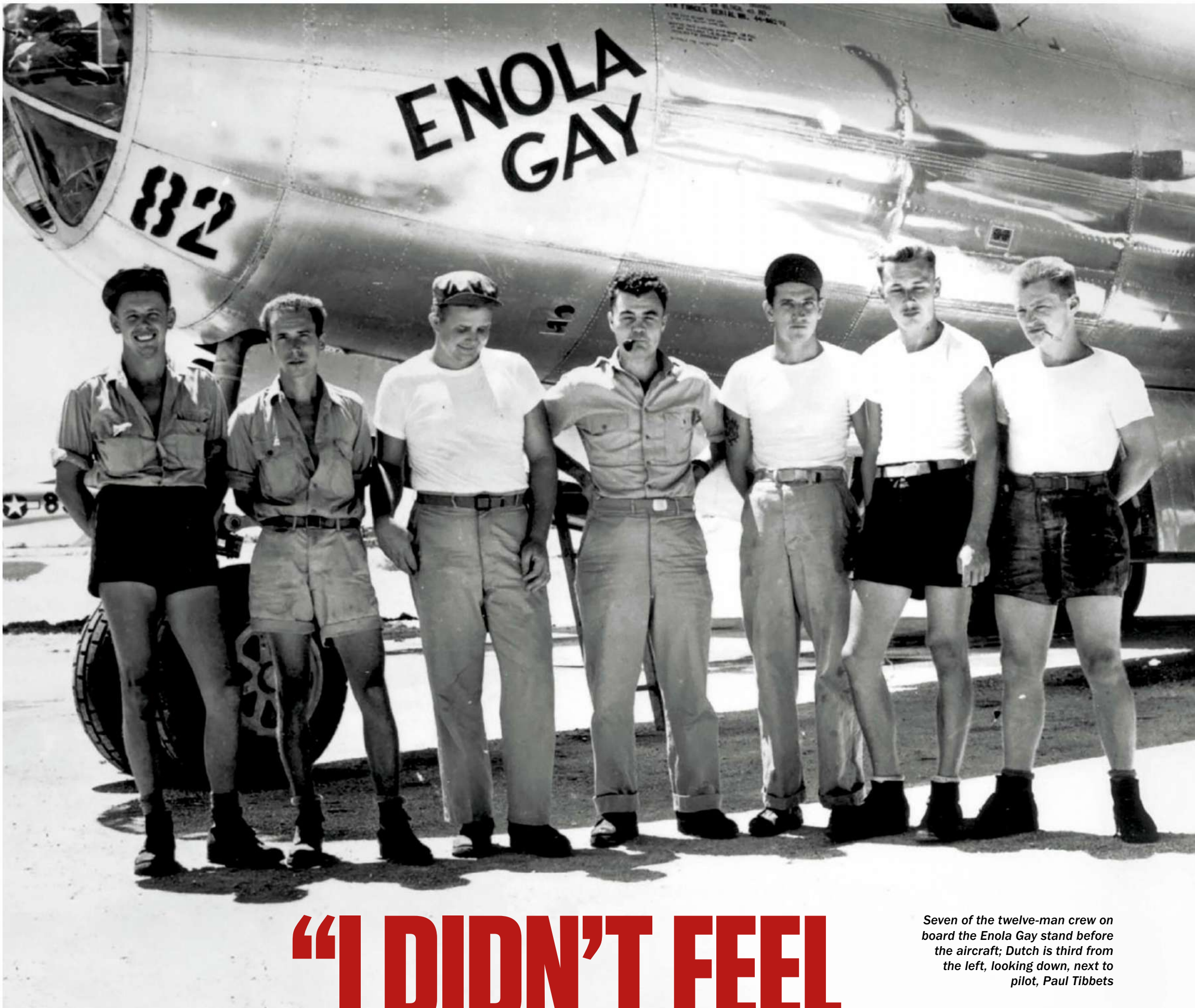


Seven of the twelve-man crew on board the Enola Gay stand before the aircraft; Dutch is third from the left, looking down, next to pilot, Paul Tibbets

"I DIDN'T FEEL TOO GOOD ABOUT DROPPING THE BOMB"

After serving 58 missions in Africa and Europe during World War II, Theodore 'Dutch' Van Kirk transferred to the 509th Composite Group and was the navigator on the Enola Gay, which, on 6 August 1945, dropped the first atomic bomb on the Japanese city of Hiroshima

The following is taken from an interview conducted in 2013. Mr Van Kirk sadly passed away in 2014

On the night of 5-6 August, 1945, the USAAF 509th Composite Group was tasked with deploying a nuclear weapon over Hiroshima, southern Japan. Aboard the B-29 bomber responsible for delivering the bomb was navigator Theodore Van Kirk, known to everyone as 'Dutch'. He had been hand-picked for the mission by his former commander, "I flew with Paul Tibbets all the time in England. We flew General Dwight Eisenhower [later to become US president] from Hurn [on the south coast of England] down to Gibraltar, for example, to command the north African invasion. Then we were all separated and doing various things – I was at a navigation school, for example, teaching other navigators. Tibbets was picked to take command of the 509th group and he looked up some of the people he'd worked with in the 97th [Bombardment Group]."

Around 10.00pm on 5 August, the crew were called from the barracks to have an early breakfast before one last briefing and final checks of the Enola Gay. Dutch recalled that the crew treated the mission like any other, despite the huge significance behind it. "We were going a long distance over water, using Iwo Jima as a checkpoint on the way. Now if you got lost between Iwo Jima and Japan, you really were a sorry navigator! Everybody on board was doing his own thing. Ferebee took a nap, for example, [while] our radio operator, as I recall, was reading a whodunnit about some boxer. Everybody was making sure they did what they were there to do, and that they did it right."

While the Enola Gay and Bockscar (the latter dropped the Nagasaki A-bomb) are the two aircraft that have gone down in history, there were in fact seven planes involved in Special Bombing Mission #13 to Hiroshima on 6 August. Three were observational planes that flew ahead to ensure conditions were right, Top Secret was a backup to the Enola Gay that landed on Iwo Jima, while the other two aircraft – The Great Artiste and Plane #91 (later named Necessary Evil) – accompanied the Enola Gay for the full operation.

"The Great Artiste had instruments that were to be dropped at the same time as we dropped the bomb. If you were to ask me the name of them, I couldn't tell you; I just call them 'blast meters' because that's what they were measuring. The other aircraft [Plane #91] was flying about 20 miles [32 kilometres] behind with a large camera to get pictures of the explosion. Unfortunately on the day the camera didn't work. So the best pictures we got were from the handheld camera of the navigator on that plane."

On the actual bomb run, Tibbets relinquished control of the Enola Gay to bombardier and close friend of Dutch's, Tom Ferebee. As Little Boy was released, the plane experienced a mighty upward surge, but Tibbets managed to stabilise the B-29 and make a speedy getaway.

"WHEN WE TURNED TO TAKE A LOOK BACK, ALL WE COULD SEE OF HIROSHIMA WAS BLACK SMOKE AND DUST"

"We made the 150-degree turn that we'd practised many times and pushed down the throttle to get away. What all people were doing was holding on to something [in preparation for] the turbulence that was sure to follow. A loose person or a loose anything in the plane was going to go flying around, so we all made sure we were in position and wearing our goggles." They were about 14.5 kilometres (nine miles) away when the bomb exploded, 43 seconds after it had been released.

"We couldn't hear a thing over the engines, but we saw a bright flash and it was shortly after that we got the first shockwave. When we turned to take a look back, all we could see of Hiroshima was black smoke and dust. The mushroom cloud was well above us at about 40,000 feet [12,190 metres] and still rising. You could still see that cloud 300 miles [480 kilometres] away."

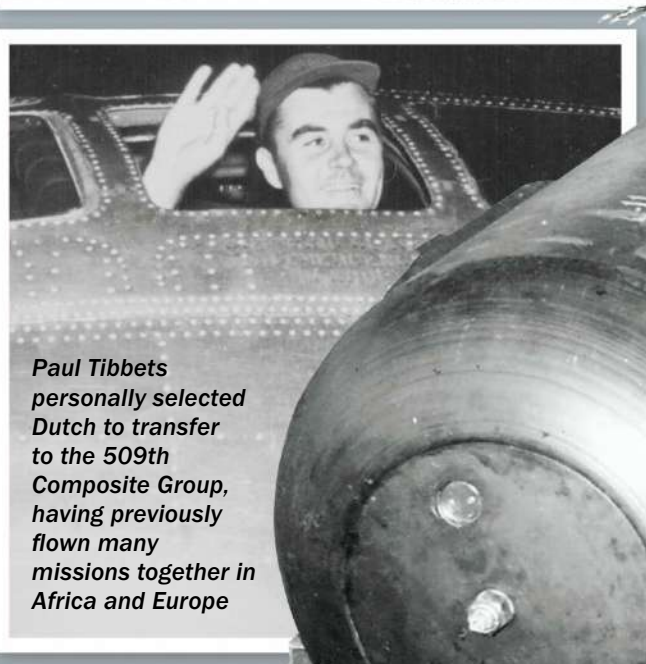
Though the US had successfully detonated the first nuclear device the month before during the Trinity test in New Mexico, and Dutch, like all his crewmates, had several months' intensive training, the fact remained that this had never before been attempted in warfare. Dutch recalls, "One of the atomic scientists [had] told us 'we think you'll be okay if the plane is nine miles [14.5 kilometres] away when the bomb detonates'." When challenged on his use of the word 'think', he said, "We just don't know."

Neither the scientists, nor the crew of the Enola Gay, knew how destructive the atomic bomb had been. Underneath all that smoke and dust nearly 70 per cent of the city's buildings had been destroyed and 80,000 people were dead – and that figure was set to rise with the much-underestimated effects of radiation.

From Dutch's perspective on board the Enola Gay "everything had gone exactly according to plan. The weather was perfect; I could probably see Hiroshima from 75 miles [120 kilometres] away. My navigation was only off by six seconds … Tom put the bomb exactly where he expected. We got a lot of turbulence, but the plane did not break up, which it could have done, and we got home".

A few weeks after the bombings, Dutch Van Kirk was part of the crew transporting scientists to Nagasaki to measure the devastation of one of these "new and most cruel bombs" first-hand. "There wasn't really anything that shocked us, though there is one thing [that has stayed with me]. The Japanese military was being broken up at the time and one of the soldiers arrived on the bus looking for his home – but it had been destroyed. I remember looking at Tom Ferebee, and saying 'You know, Tom, that could have been us if the war had gone the opposite way'. I didn't feel too good about dropping the bomb – but I didn't feel too bad about dropping it either." Dutch reflected that a lot of lives had potentially been saved by dropping the bombs, because it had precluded a full-scale, and inevitably bloody invasion of Japan. "This was one man among many that were saved by the dropping of the bomb … It was very important we saw that, and we both recognised how lucky we were."

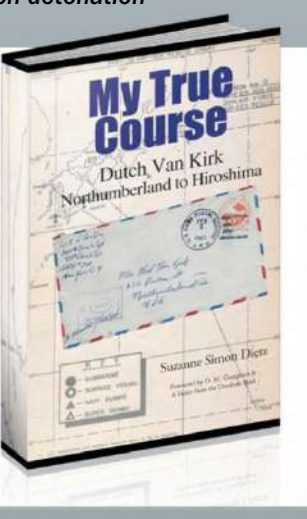
B-29 Superfortress Enola Gay


Paul Tibbets personally selected Dutch to transfer to the 509th Composite Group, having previously flown many missions together in Africa and Europe

Left: Little Boy was a uranium bomb that weighed 4,400kg (9,700lb) that would produce a force equivalent to around 15,000 tons of TNT on detonation

All images: Wiki / PD / CC

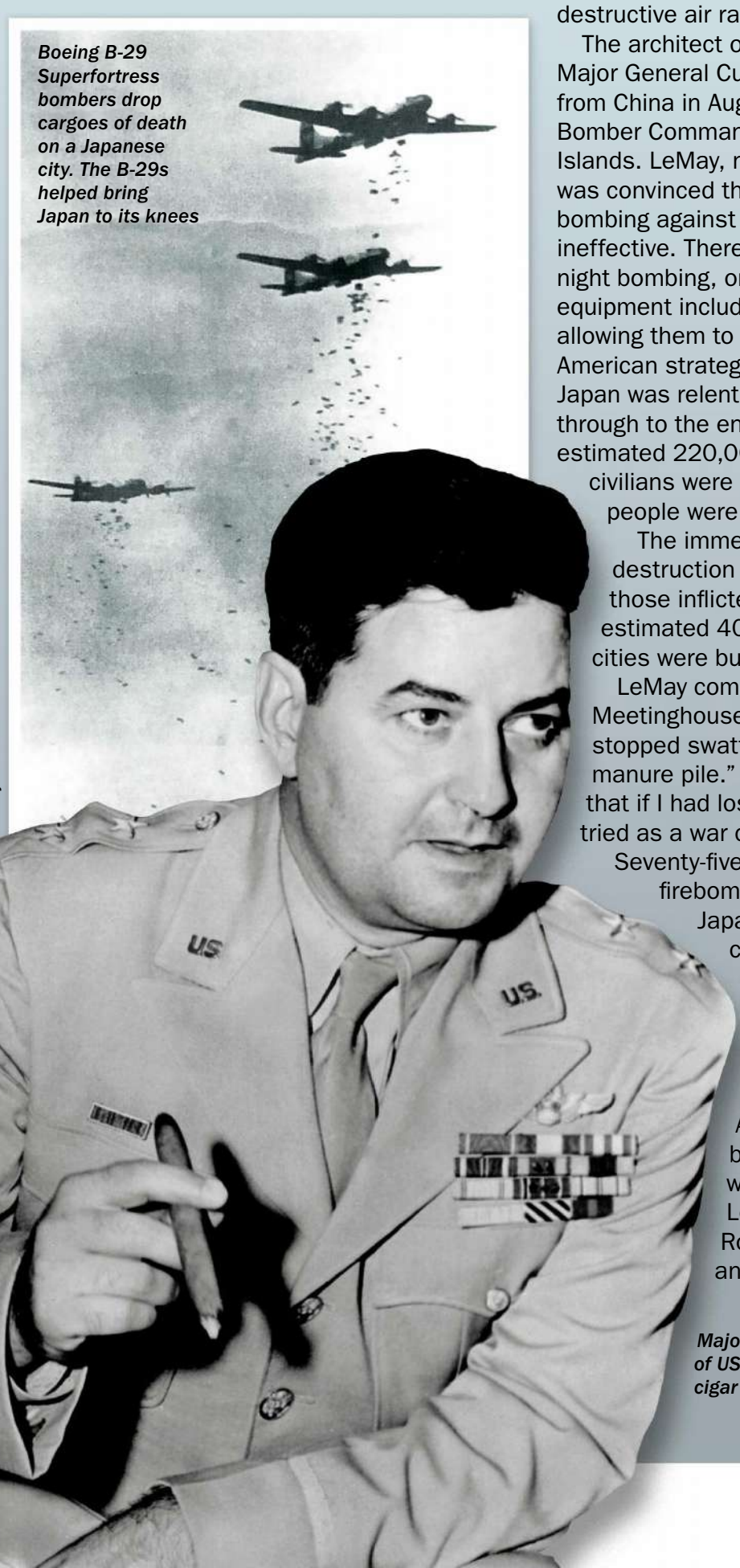
Written by Suzanne Dietz, *My True Course: Northumberland To Hiroshima* is the biography of Dutch Van Kirk, detailing the many missions he served on, including his role on Special Bombing Mission #13. It is available from www.amazon.com



A TORRENT OF FIRE

Often overshadowed by the dropping of the atomic bombs, the US firebombing raids on Japanese cities in the spring and summer of 1945 resulted in tremendous damage and civilian casualties

The Pathfinders arrived first, marking the target area with an immense 'X' etched in flame. Then 325 Boeing B-29 Superfortress heavy bombers came in waves, sowing death and destruction on a scale so massive that it seemed incomprehensible. For three hours during the execution of Operation Meetinghouse, on 9-10 March 1945, the US XXI Bomber Command rained 1,665 tons of M-47 incendiary clusters, napalm and other ordnance on the Japanese capital of Tokyo. Like other cities in Japan, Tokyo was constructed largely of wood and paper, and the resulting hellish conflagration consumed 250,000 buildings while burning 16 square miles of the city to the ground and killing 100,000 civilians. It was the single most destructive air raid in history.



Boeing B-29 Superfortress bombers drop cargoes of death on a Japanese city. The B-29s helped bring Japan to its knees

Major General Curtis LeMay, commander of US XXI Bomber Command, smokes a cigar at the Pentagon in July 1945

© Getty

The architect of the devastating raid was Major General Curtis LeMay, who had come from China in August 1944 to lead XXI Bomber Command, based in the Mariana Islands. LeMay, nicknamed 'Old Iron Ass', was convinced that daylight high altitude bombing against Japanese cities was largely ineffective. Therefore, he instituted low-level night bombing, ordering the B-29s stripped of equipment including defensive machine-guns, allowing them to carry heavier bomb loads. The American strategic bombing campaign against Japan was relentless. From March 1945 through to the end of hostilities in August, an estimated 220,000 to 500,000 Japanese civilians were killed and up to five million people were left homeless.

The immediate casualties and destruction of property were greater than those inflicted by the atomic bombs. An estimated 40 per cent of 66 Japanese cities were burned to the ground.

LeMay commented on Operation Meetinghouse, "…The US had finally stopped swatting at flies and gone after the manure pile." He later added, "I suppose that if I had lost the war I would have been tried as a war criminal."

Seventy-five years after the devastating firebombing raids against the Japanese home islands, historians continue to debate the justification for the apparently indiscriminate bombing of population centres where military targets were either non-existent or secondary. Although his air offensive has been questioned, its results were quite tangible. Along with LeMay, Presidents Franklin D. Roosevelt and Harry S. Truman and other military leaders supported the effort. Several concluded that Japan could be compelled to surrender on the basis of the bombing campaign alone.

As brutal and horrific as they were, the American raids against Japan were not the first terror bombings of World War II. The German Luftwaffe had burned the heart out of British cities, establishing an ugly precedent, and the Allied retaliation against German cities later in the war in Europe was ongoing. Still, from a humanitarian perspective the horror of Operation Meetinghouse and other raids was difficult to comprehend and weighed on the collective conscience of America.

The rationale for the offensive included numerous factors. At the time, the Japanese appeared willing to fight to the absolute death. Their dogged defence of Iwo Jima in February 1945 was indicative of future operations. By April, American Marines, soldiers and sailors were suffering mightily in the fight for Okinawa. American commanders shuddered with the contemplated invasion of Japan itself, which promised human suffering on an unprecedented scale, possibly even exceeding a million casualties. So, in some ironic fashion, the raids might actually have saved lives, particularly those of Americans.

Further, the Japanese had recently announced that all men 17-60 years old and women 17-45 were subject to military service; essentially there were no longer any civilians in Japan. Much of the industrial capacity of the war-ravaged nation had been dispersed from central factories to individual homes and cottages, possibly negating the effectiveness of bombing industrial and military targets.

Perhaps revenge for the sneak attack on Pearl Harbor nearly four years earlier and reports of Japanese atrocities against civilians in occupied territories and prisoners of war provided some enthusiasm for the bombing. And then, there was a systemic racism against the Japanese, a mysterious people of Asia whose customs and world view were as distant and as foreign to the West as any on Earth.

Total war, including the killing of civilians, had come, and in the swirl of flames, men, women and children perished in agony. The debate surrounding the devastating B-29 raids remains an open question. General LeMay went on to serve as US Air Force Chief of Staff, retired in 1965 after 36 years of service, and joined American Independent Party presidential nominee George Wallace as a candidate for Vice President of the United States in 1968. He died in 1990 at the age of 83.

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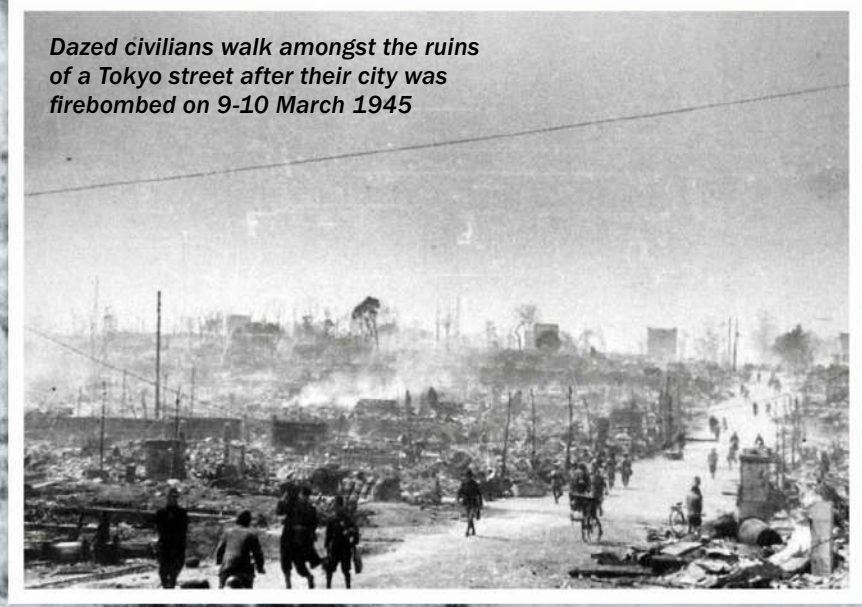


Dazed civilians walk amongst the ruins of a Tokyo street after their city was firebombed on 9-10 March 1945

Widespread devastation is evident in this photo (and inset left) of the Japanese capital of Tokyo. Operation Meetinghouse led to a huge conflagration

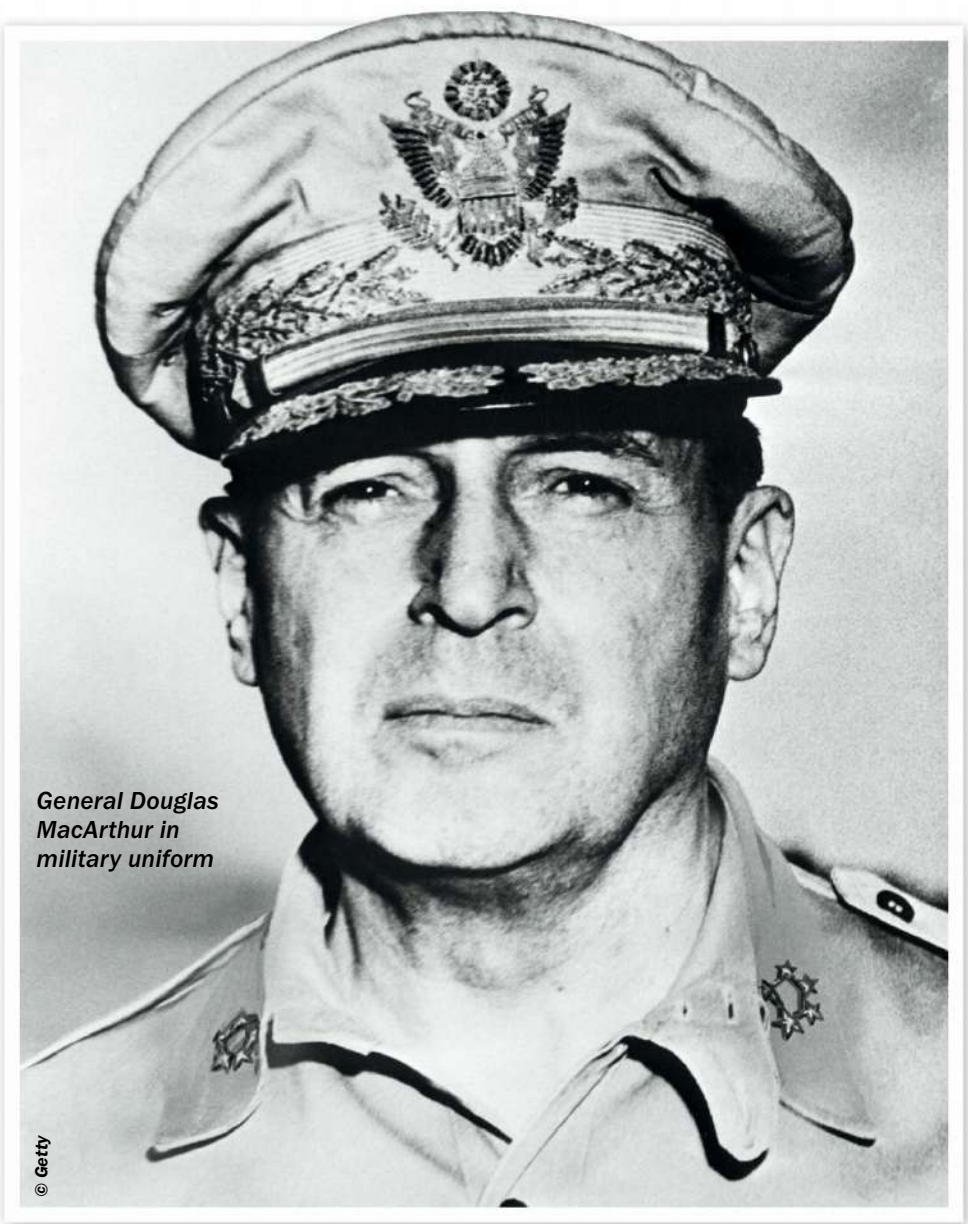
LEADERS & COMMANDERS

The final months of the war with Japan witnessed a tense but by no means certain path to the negotiation table

GENERAL DOUGLAS MACARTHUR

SUPREME COMMANDER SOUTHWEST PACIFIC AREA, MACARTHUR PRESIDED OVER SURRENDER PROCEEDINGS

1880-1964 *UNITED STATES*



General Douglas MacArthur in military uniform

© Getty

General Douglas MacArthur was the son of Lieutenant General Arthur MacArthur, a recipient of the Medal of Honor during the American Civil War. He was a 1903 graduate of the US Military Academy at West Point, and served as the academy superintendent from 1919 to 1922. Known for his towering ego and a flair for the dramatic, MacArthur was sometimes the focus of harsh criticism during his 60-year military career. One of his aides, Dwight D. Eisenhower once said of MacArthur, "I studied dramatics under him for five years in Washington and four years in the Philippines."

As senior US commander in the South Pacific at the outbreak of World War II, MacArthur was ordered to leave the Philippines amid Japanese advances but vowed, "I shall return!" He later received the Medal of Honor for heroism during the defence of the Philippines in 1941. After being named Supreme Commander Southwest Pacific Area, MacArthur established headquarters in Australia and subsequently led campaigns in New Guinea and the Philippines, fulfilling his promise to return to the islands with the invasion of Leyte in October 1944. His appeal to President Franklin D. Roosevelt had led to a primary offensive thrust toward Japan through the Philippines rather than Formosa as preferred by Admiral Chester Nimitz.

MacArthur presided over the Japanese surrender proceedings aboard the battleship USS Missouri in Tokyo Bay on 2 September 1945, which formally ended World War II. He was later appointed Supreme Commander for the Allied Powers, de facto military governor of post-war Japan. Under General MacArthur's administration, sweeping social and economic change occurred in Japan.

MacArthur commanded United Nations forces during the Korean War, but was relieved by President Harry S. Truman during a major controversy over potential widening of the conflict. He died in 1964 at the age of 84.

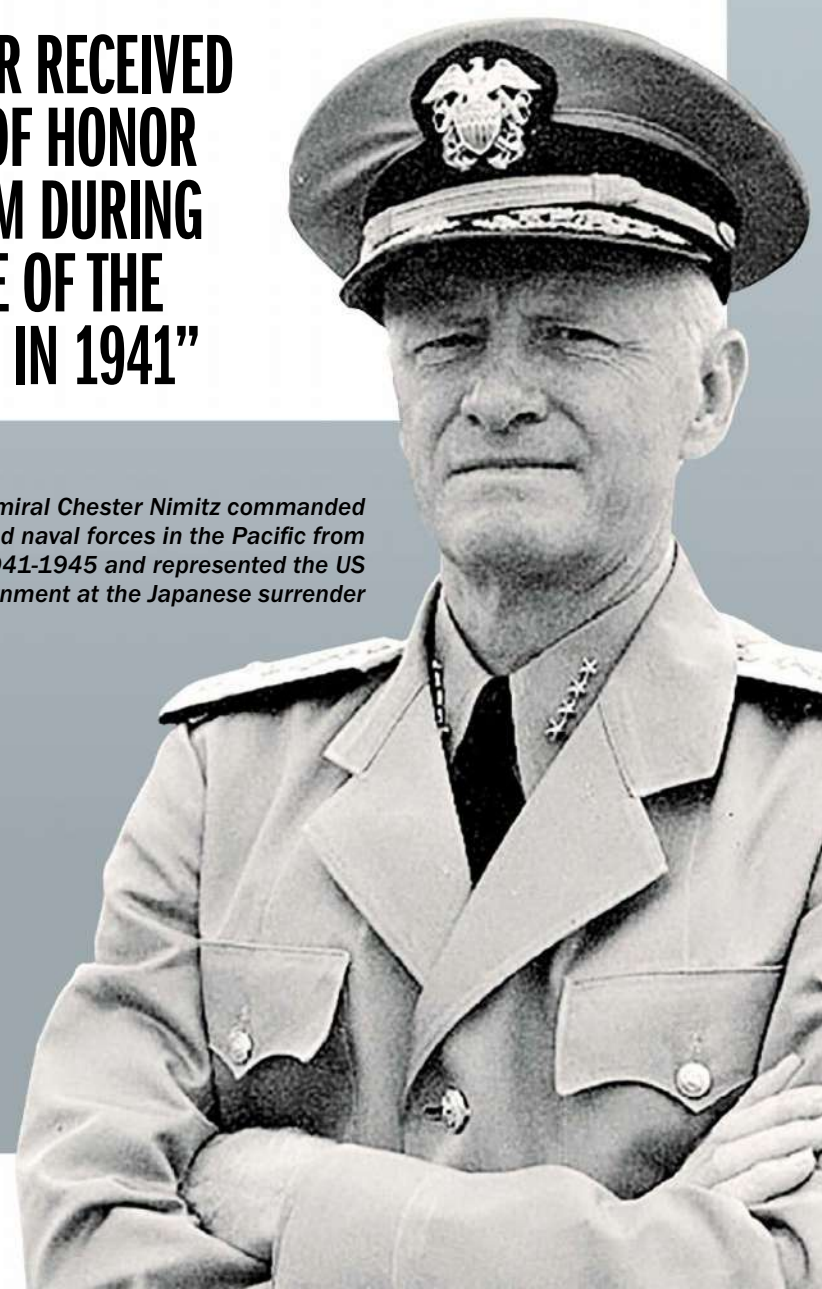
"MACARTHUR RECEIVED THE MEDAL OF HONOR FOR HEROISM DURING THE DEFENCE OF THE PHILIPPINES IN 1941"

ADMIRAL CHESTER W. NIMITZ

COMMANDED ALLIED FORCES IN PACIFIC OCEAN AREAS

1885-1966 *UNITED STATES*

Less than two weeks after the Japanese attack on Pearl Harbor devastated the US Pacific Fleet, Admiral Chester Nimitz was appointed by President Franklin D. Roosevelt to command the shattered force. He was subsequently appointed Commander in Chief, Pacific Ocean Areas, guiding the US Navy and Marine Corps offensive across the Pacific toward the Japanese home islands during World War II. Rather than commanding from aboard ship, Nimitz chose to maintain strategic headquarters in Hawaii prior to relocating to Guam in 1945, allowing subordinates to exert tactical control during major naval engagements. A 1905 graduate of the US Naval Academy at Annapolis, Nimitz displayed outstanding administrative skill. He presided over strategic victories at the Battles of the Coral Sea and Midway, turning points in the conflict, later seizing the offensive during the island hopping campaign across the Pacific from 1943-1945. He represented the US government during the Japanese surrender ceremonies in Tokyo Bay, 2 September 1945. Nimitz died at age 80 in 1966.

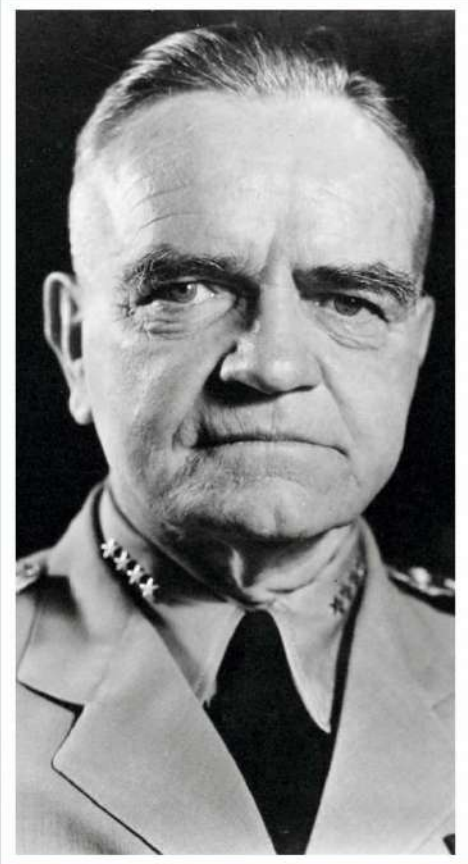


Admiral Chester Nimitz commanded Allied naval forces in the Pacific from 1941-1945 and represented the US government at the Japanese surrender

ADMIRAL WILLIAM F. HALSEY

HERO OF GUADALCANAL AND THIRD FLEET COMMANDER
1882-1959 *UNITED STATES*

Nicknamed 'Bull' by the media, Admiral William F. Halsey was a 1904 graduate of the US Naval Academy and developed a reputation as the most aggressive admiral in the navy. After Pearl Harbor, Halsey led US aircraft carriers in hit-and-run raids against Japanese installations in the Gilbert and Marshall Islands. He commanded the task force that launched the Doolittle Raid on Tokyo in April 1942. That autumn, Halsey took command of US forces in the South Pacific, re-energising the pivotal campaign to capture the island of Guadalcanal. He subsequently led the offensive through the Solomons, the landings on Bougainville and the successful execution of Operation Cartwheel, neutralising the Japanese bastion at Rabaul. Halsey commanded the Third Fleet during the Battle of Leyte Gulf, but his performance remains controversial.



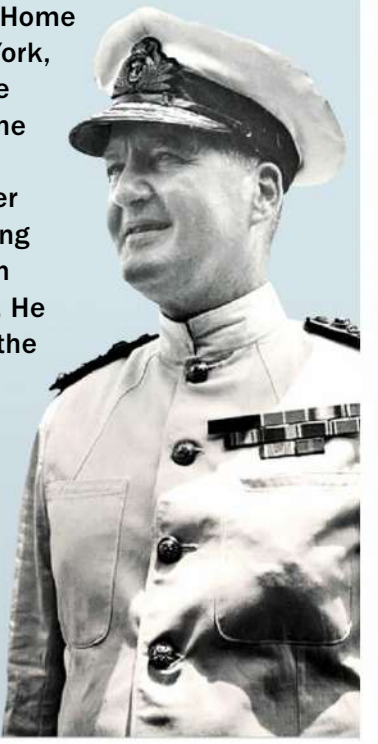
Admiral Bruce Fraser commanded the Royal Navy Home Fleet and led the British Pacific Fleet during World War II

One of only four US Navy officers to achieve fleet admiral rank, he attended the Japanese surrender proceedings in Tokyo Bay. Halsey died at the age of 76.

ADMIRAL BRUCE FRASER

COMMANDER OF ROYAL NAVY PACIFIC FLEET
1888-1981 *GREAT BRITAIN*

Admiral Bruce Fraser joined the Royal Navy as a cadet in 1902 and served in a combat role during World War I. He participated in the surrender of the German High Seas Fleet in 1918. During the 1930s he served as Third Sea Lord and Controller of the Navy, contributing to its preparedness for World War II. In May 1943, Fraser became Commander-in Chief of the Home Fleet. Aboard the battleship HMS Duke of York, he commanded the task force that sank the German battle cruiser Scharnhorst during the Battle of the North Cape that December. A year later, Fraser was appointed commander of the British Pacific Fleet. He forged a strong working relationship with Britain's American allies and became quite popular with them. He represented the British government during the Japanese surrender proceedings in Tokyo Bay on 2 September 1945. Fraser was appointed Admiral of the Fleet in 1948, retiring in 1951 after half a century of service. He died at age 93.



Admiral William F. Halsey commanded US forces at Guadalcanal campaign and alternated command of the US Fleet with Admiral Raymond Spruance

EMPEROR HIROHITO

RULER OF THE JAPANESE EMPIRE
1901-1989 *JAPAN*

Despite reluctance to pursue a policy of expansion, Hirohito, the 124th Emperor of Japan, acquiesced to military expansion into China and the continent of Asia, and ultimately to war with the United States. He further agreed to Japan's alliance with Nazi Germany and Fascist Italy, formally codified in the Tripartite Pact of 27 September 1940, nearly a year after the German invasion of Poland and the outbreak of World War II in Europe. Prior to the attack on Pearl Harbor in December 1941, Hirohito approved the plan. As the fortunes of war turned against the empire, Hirohito remained a revered 'god-man', and negotiations for Japan's surrender allowed the emperor to remain on the throne. On 15 August 1945, Hirohito addressed his people concerning the surrender. It was the first time they had heard his voice. Hirohito avoided prosecution for war crimes, and his culpability remains a topic of debate. He died at the age of 87 following a reign of 62 years.

Emperor Hirohito was the nominal ruler of Japan during its expansionist, militaristic period, which led to defeat in World War II

PRINCE FUMIMARO KONOE

PRIME MINISTER AND ADVISOR TO THE EMPEROR
1891-1945 *JAPAN*

Ascending to the office of prime minister in 1937, Konoe twice served in the role but failed to form governments that could mitigate the influence of the military and restrict its adventurism to China rather than widening the conflict to include war with the Western powers, particularly the United States. Nevertheless, he presided over much of Japan's evolution to a totalitarian nation. From the spring of 1941 until his resignation in October, he attempted to negotiate with the American government. However, the effort was impeded by hawkish War Minister Hideki Tojo, an army general who argued that war with the United States was inevitable. Succeeded by Tojo as prime minister, Konoe temporarily faded from the nexus of Japanese politics. By 1944, he re-emerged as a key figure in forcing Tojo from power. He further advised Emperor Hirohito to engage in peace talks with the US. Under threat of indictment as a war criminal after World War II ended, he committed suicide in December 1945.

Although he presided over Japan's move toward totalitarianism, Prince Fumimaro Konoe opposed war with the US and advised Hirohito to seek peace

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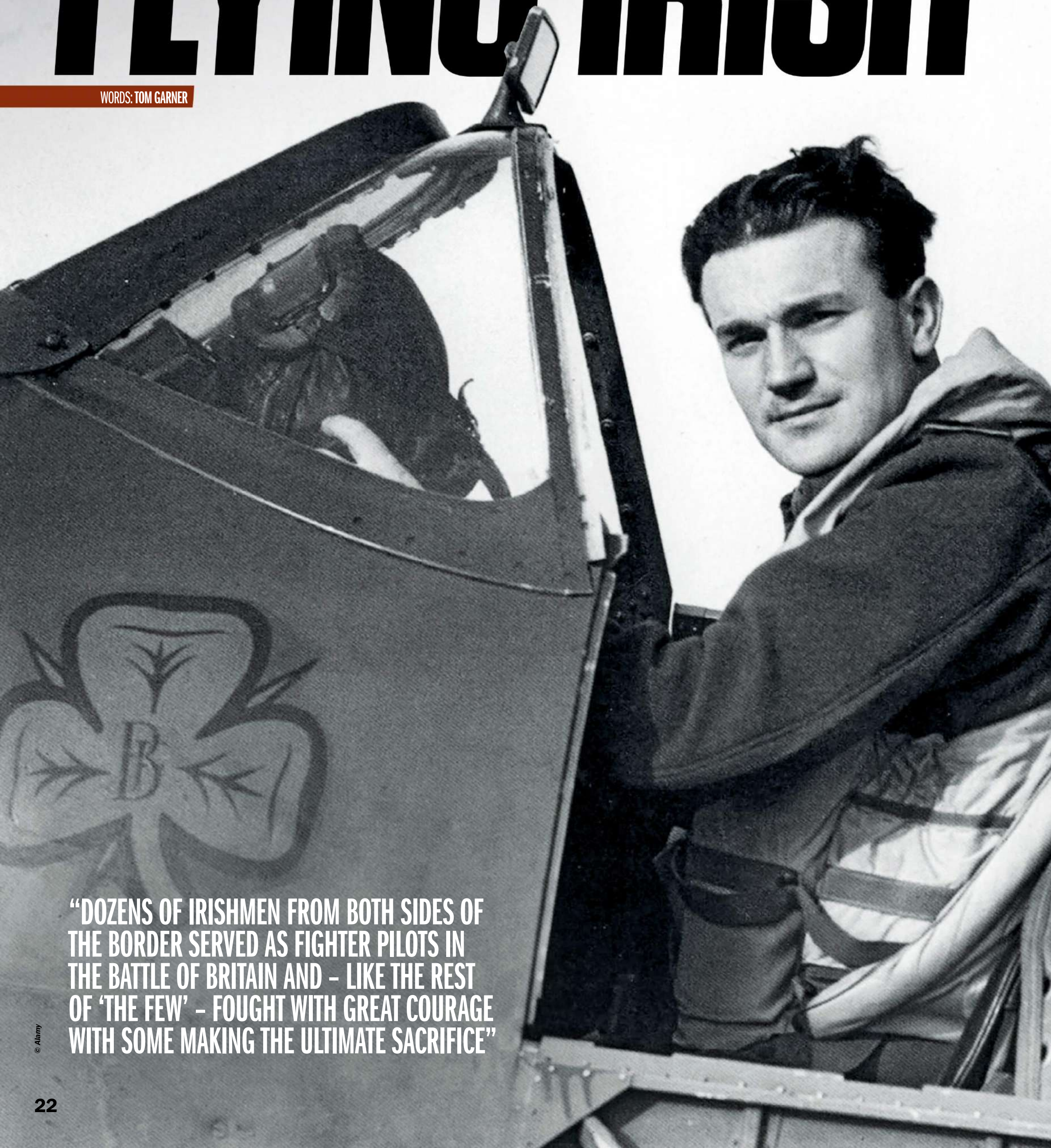
THE FLYING IRISH

WORDS: **TOM GARNER**



“DOZENS OF IRISHMEN FROM BOTH SIDES OF THE BORDER SERVED AS FIGHTER PILOTS IN THE BATTLE OF BRITAIN AND – LIKE THE REST OF ‘THE FEW’ – FOUGHT WITH GREAT COURAGE WITH SOME MAKING THE ULTIMATE SACRIFICE”

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Despite their country's fractious relationship with Britain, pilots from Ireland joined the Royal Air Force to defend their neighbour's shores

At the beginning of WWII, Anglo-Irish relations were historically low. It had only been 17 years since the establishment of the Irish Free State in 1922 after the Irish War of Independence. The creation of a new country from 26 out of Ireland's 32 counties had broken up the United Kingdom for the first time and partitioned the island. Relations had not improved in the intervening years and in 1937 the Irish Free State drafted a new constitution that renamed the country 'Éire' and severed most ties with the British Crown. Most crucially, in 1939 the Taoiseach (Prime Minister) Éamon de Valera declared Éire's neutrality and refused to participate in the war on the Allied side.

Southern Ireland had been established by republican militarism and its official antipathy towards Britain had roots that were hundreds of years old. Nevertheless, dozens of Irishmen from both sides of the border served as fighter pilots in the Battle of Britain and – like the rest of 'the Few' – fought with great courage with some making the ultimate sacrifice.

Heroism in Belgium

It is estimated that approximately 38 Irishmen flew in the Battle of Britain, although the numbers vary depending on birthplace and documentation. Of these, around 28 pilots hailed from Northern Ireland, which had remained in the United Kingdom, but the remaining ten were from Éire. Although it may seem surprising that aviators from Southern Ireland chose to serve in the RAF, many had close links to Britain and were already serving when war broke out.

Leading the vanguard among the Southern Irish pilots was Flying Officer Donald Garland. Born in County Wicklow, Garland had been educated in England and joined the RAF in 1937. In May 1940 he was serving in 12 Squadron in Belgium and flew a Fairey Battle light bomber with his observer Sergeant Thomas Gray. On 12 May, the duo led a

Brendan Finucane pictured sitting in his famous shamrock-emblazoned Spitfire at RAF Kenley, Surrey while he was serving with 452 Squadron

Hawker Hurricanes of John Hemingway's 85 Squadron fly on patrol during the Battle of Britain, October 1940

formation of five aircraft that attacked a bridge on the Albert Canal at Lanaken. This bridge was heavily defended by German anti-aircraft guns and fighter aircraft but the British successfully dive-bombed at the lowest possible altitude.

Garland and Gray were killed and only one of the five aircraft returned from the attack. The survivors attested to the pair's professionalism and they were both posthumously awarded the Victoria Cross. Garland's VC citation noted, "Much of the success of this vital operation must be attributed to the formation leader, Flying Officer Garland, and to the coolness and resource of Sergeant Gray, who in most difficult conditions navigated [their] aircraft in such a manner that the whole formation was able to successfully attack the target in spite of subsequent heavy losses." Garland's extreme courage set an example for the Irishmen that would soon follow him defending Britain's skies.

Men from the north

The most numerous pool of Irish pilots who participated in the Battle of Britain from July 1940 came from Northern Ireland. Firmly part of the UK since the partition in 1922, the RAF was a natural home for many Ulster fliers. Two Belfast teenagers – Noel Corry and the appropriately named Sydney Ireland – joined the RAF Volunteer Reserve together with another friend aged 18 in 1939. Corry flew a Bristol Blenheim light bomber during the battle while Ireland flew a Spitfire. Ireland was killed in a dogfight training exercise on 12 July 1940 over RAF Biggin Hill when his aircraft spun out of control. He was the first Ulsterman to die in the battle and Corry was granted leave to attend his funeral.

Corry later became a squadron leader and subsequently flew Lancaster bombers. In recognition of his Northern Irish roots he requested that the 'Red Hand of Ulster' symbol be painted on the side of his Lancaster. His Dublin-born ground mechanic suggested that a large green shamrock would be more appropriate but Corry reportedly laughed and said that he wouldn't change the design. He survived the war and was awarded the Distinguished Flying Cross (DFC) in December 1944.

One of the most successful Ulster pilots was Flying Officer Anthony Lovell. Born in Ceylon (Sri Lanka) to Northern Irish parents, Lovell grew up in Portrush, County Antrim, and joined the RAF in 1937. A member of 41 Squadron at RAF Hornchurch, Essex, Lovell first saw action over Dunkirk. During the battle over England he participated in the shooting down of a Heinkel He 111 and Junkers Ju 88. He was himself shot down by a Messerschmitt Bf 109 over Kent on 28 July 1940, which was reputedly flown by German ace Werner Mölders. Lovell was wounded in the thigh but returned to duty before he bailed out of his Spitfire – this time unhurt – over the Thames Estuary.

Appointed to command 'B' Flight of 41 Squadron in October 1940, Lovell was awarded the DFC and promoted to flight lieutenant for the destruction of seven enemy aircraft. By the end of the war he had been promoted to wing commander and was awarded the Distinguished Service Order (DSO) & Bar as well as an additional Bar to his DFC. His success as an ace amounted to 16 confirmed destroyed enemy aircraft although he was tragically killed in a plane crash days after the war ended on 17 August 1945.

The attrition rate among Northern Irish pilots was high with seven being killed during the battle and a further 11 who did not survive the war. One of the fallen was Sergeant John Haire of Belfast who flew Hawker Hurricanes with 145 Squadron. He was twice shot down over the Isle of Wight and on both occasions guided his stricken aircraft to avoid crashing over settlements. He survived the first incident on 27 October 1940 but was killed on 6 November 1940 when he deliberately avoided crashing

***Below:** John Hemingway (far left) pictured with other members of 85 Squadron, including his commanding officer Peter Townsend (centre, with dog) who was later famously engaged to Princess Margaret*

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***Above:** Rupert F. Smythe (far left) relaxes with other pilots of 32 Squadron at RAF Hawkinge, Kent, 29 July 1940*

© Getty

into the village of Arreton. The sacrifices made by pilots like John Haire was not the entire story because many Northern Irish men and women also served as RAF ground crew. In total, the number of Northern Irish personnel killed during the battle was 72.

"An inspiration to all"

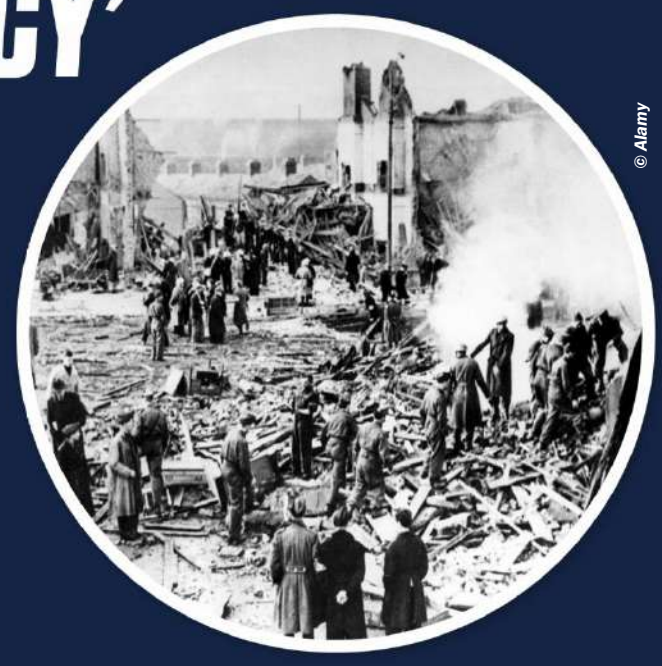
Northern Ireland's contribution to the Battle of Britain was significant in terms of the proportional numbers of pilots and casualties but it was the contribution of the Southern Irish pilots that was the most surprising. Éire's neutrality was problematic for the British government because although the country's 1937 Constitution effectively made it a republican state, it was still technically a dominion within the British Empire. The other dominions had almost immediately joined the Allied war effort and contributed significant numbers of pilots for the RAF. Ireland's stance was met with disappointment by the British government with Dominions Secretary Anthony Eden stating, "We do not want formally to recognise Éire as neutral while Éire remains a member of the British Commonwealth." Winston Churchill worded it more bitterly when he said, "Southern Ireland is at war, but skulking."

Churchill's anger was largely due to the fact that Éire's neutrality became a strategic headache during the Battle of Britain. The British Isles were now surrounded to the east, north and south by the Nazi-occupied countries of Western Europe, including France and Norway. Éire had a weak army and the British were concerned that the UK could be potentially invaded from the west through Ireland. Éamon de Valera also refused the British naval access to Southern Irish ports and so the U-boat threat in the North Atlantic increased the risk to Britain's maritime lifeline of supplies.

Yet, despite the political tensions and the often entrenched hostility of Irish citizens towards Britain, approximately ten Southern Irishmen still flew for the RAF. They were small in number but their contribution remains remarkable. A majority were already serving personnel when war broke out such as Victor Beamish who was a native of Dunmanway,

'THE EMERGENCY'

Éire may have been neutral during WWII but it still endured rationing and bombings before its Taoiseach mistakenly expressed sadness when Adolf Hitler committed suicide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***Above:** Buildings destroyed by German bombs in Dublin, c.1941*

In 1939, Éire's government passed the Emergency Powers Act, which gave the Irish state new powers for the duration of the war. The Act also coined Southern Ireland's experience of WWII, which was referred to as 'The Emergency'. Éire's neutrality gave the impression of a small country that was insulated from the global conflict but it was far from immune to the outside world.

Éire was highly dependent on Britain for trade and the Battle of the Atlantic meant that rationing had to be introduced. The poet John Betjeman, who served as the British press attaché in Dublin during the war, recalled that the capital was "cold" and had "no petrol, no light, no coal, no trains". Dublin was also not safe from the Luftwaffe and was bombed, perhaps intentionally, three times in 1941 that resulted in the deaths of 28 people. Other bombings occurred elsewhere in western counties with casualties in Carlow and Wexford.

"DE VALERA MAY HAVE OBSERVED ÉIRE'S NEUTRALITY TO THE POINT OF OFFENCE BUT HIS CITIZENS NEVERTHELESS VOLUNTEERED FOR THE ALLIES IN THEIR TENS OF THOUSANDS"

As well as privations and destruction, Éire did not escape controversy. The IRA (which did not recognise the state) killed several policemen and even captured over one million rounds of ammunition from the Irish Army during the 'Christmas Raid' of 23 December 1939. Éamon de Valera's interpretation of neutrality was also clinical to the point of political self-defeat. As well as refusing access to Éire's ports, he rejected a serious British offer of Irish unification in return for joining the Allies.

Perhaps most egregiously, de Valera visited the German ambassador on 2 May 1945 to sign a book of condolences upon the death of Adolf Hitler. He ignored the concerned advice of his ministers by saying, "I do what I think is right," but his action drew international condemnation. This included vocal criticism in the United States where a Washington Post editorial headlined the Taoiseach's 'Moral Myopia', particularly in light of the Holocaust.

De Valera may have observed Éire's neutrality to the point of offence but his citizens nevertheless volunteered for the Allies in their tens of thousands. It is estimated that 42,000-60,000 Irish people volunteered for the British armed forces alone to defeat Nazism.

Taoiseach Éamon de Valera inspects troops of the Irish National Army outside the General Post Office on O'Connell Street, Dublin, c.1940
© Getty

County Cork. Born in 1903, Beamish actually joined the RAF in 1921 at the height of the Irish War of Independence. At that time, Cork was living up to its reputation as the 'Rebel County' but Beamish had been educated at a grammar school in predominantly pro-Union Ulster. By 1938 he had already been awarded the Air Force Cross and served as an RAF aide-de-camp to the governor of Northern Ireland's staff.

During the early months of the war, Beamish commanded 504 Squadron and was Mentioned in Despatches in February 1940 for his services in command. Promoted to wing commander, Beamish took command of RAF North Weald, Essex, in June 1940 and played an active part by flying Hawker Hurricanes. His active service during the Battle of Britain was prolific where he personally led many patrols.

He destroyed or damaged various German aircraft including Bf 109s and 110s, Dornier Do 17s and Ju 87 Stukas. He even claimed a probable victory against an Italian Fiat CR.42 biplane on 11 November 1940 and survived a collision with another Hurricane. In all of his 1940 sorties, Beamish's aircraft was damaged by enemy action but he always landed safely. He was awarded both the DSO and DFC with the latter citation stating, "His coolness and courage have proved and inspiration to all." Beamish later added a Bar to his DSO and before he was killed in action over the English Channel in 1942 he had achieved ten confirmed aerial victories.

Beamish had been an exemplary example of leadership but the most famous Irish pilot to emerge from 1940 was a man who personified the apparent duality of the Southern Irishmen who flew for Britain – Brendan Finucane.

'Spitfire Paddy'

Born in Dublin in 1920, Finucane's mother was English but his Irish father had fought during the 1916 Easter Rising under the personal command of Éamon de Valera. The family moved to England in 1936 and – despite his father's rebellious past – Finucane joined the RAF in 1938 aged 17. By 1940 he was a pilot officer with 65 Squadron at RAF Hornchurch and flew Spitfires. Operating from a satellite airfield at Rochford, Essex, Finucane soon began his successful career against German aircraft.

He achieved his first aerial victory on 1 August 1940 when the squadron attacked 30 Bf 109s off North Foreland. Finucane personally attacked a formation of 12 enemy aircraft and managed to shoot down a Bf 109 before successfully landing to refuel at RAF Manston. The base was under aerial attack at the time and Finucane quickly took off again to damage one Bf 109 and achieve a 'probable' victory against another aircraft.

More German aircraft were shot down by Finucane over the following days, including on 13 August which was Adlertag (Eagle Day) – the Luftwaffe's official effort against the RAF. Finucane destroyed another Bf 109 and damaged another on that day and his reputation steadily increased. He continued to fly for another fortnight from RAF Hornchurch before he was transferred to RAF Turnhouse in Scotland. Promoted to flying officer, Finucane returned with 65 Squadron to southern England and when he witnessed the Southampton Blitz he remarked, "Until this war is won we must shoot every Jerry from the sky."

As the Nazi aerial threat to Britain decreased, Finucane was awarded the DFC in May 1941 for destroying "at least five [enemy] aircraft". His citation further stated, "His courage and enthusiasm have been a source of encouragement to other pilots of the squadron."

Finucane's war was far from over and he was rapidly promoted until he became the youngest RAF officer to achieve the rank of wing commander at the age of 21. With a shamrock emblazoned on his Spitfire throughout 1940 and beyond, Finucane's Irish identity and bravery combined to make him a unique celebrity on both sides of the Atlantic. The *Chicago Herald* called him the "Flying Shamrock terror of the Nazis" while the British press nicknamed him "Spitfire Paddy" and he gave several radio interviews for the BBC.

Finucane was proud to be Irish and referred to it in one BBC interview when he recalled being wounded in combat, "The cockpit was awash with blood. It was not until I was feeling a bit sick and dizzy did it dawn on me that it was my blood! It was good Dublin blood which, I thought, should not be wasted. How I even managed to land without a crack-

Rupert F. Smythe is sometimes left off official lists of Irish Battle of Britain pilots but he was born in Killiney, County Dublin, and was awarded the DFC on 1 November 1940

© Getty

up will never be known. The luck of the Irish triumphed that day."

Despite his fame, Finucane continued defending Britain throughout 1941-42, this time with 452 and 602 Squadrons. He added two Bars to his DFC and was awarded the DSO in October 1941. His DSO citation reflected on his contribution to the success of 452 Squadron, "He has flown with this squadron since June 1941, during which time the squadron has destroyed 42 enemy aircraft of which [Finucane] has personally destroyed 15. The successes achieved are undoubtedly due this officer's brilliant leadership and example."

Now a legendary figure, Finucane was popular with his colleagues and quietly modest. When a member of his ground crew added swastikas around his Spitfire's shamrock to signify his aerial victories, he asked for them to be removed because he did not want to boast about how many enemy airmen he might have killed.

On 15 July 1942, Finucane was returning to England after an attack against targets in Occupied France when his new Spitfire Mk Vb was hit by German ground machine-gun fire near the Le Touquet estuary. Finucane's engine was severely damaged but he flew on so as to not risk being captured. His last words over the radio were reportedly "This is it chaps!" before his Spitfire ditched in the English Channel and sank within seconds. Finucane was only 21 years old when he died and over 3,000 people attended a Requiem Mass held for him at Westminster Cathedral, London. A nationwide British appeal subsequently led to the creation of the 'Finucane Ward' at Richmond Royal Hospital.

Officially credited with 28 aerial victories and more aircraft damaged, shared or probably destroyed, Finucane shot down all manner of German aircraft including Bf 109s, Junkers Ju 88s and even four Focke-Wulf Fw 190s. Despite his success, Finucane's achievements were not hailed in his native Éire due to censorship but his RAF service was borne from Irish patriotism. Speaking in 2015 to the BBC, his nephew Brendan Finucane QC explained his motivations, "His view was that if the Nazis invaded England, then they would invade Ireland. My uncle was a combination of being a true Irishman, but also realising he was fighting for the Royal Air Force and for Britain."

"IT WAS MY BLOOD! IT WAS GOOD DUBLIN BLOOD WHICH, I THOUGHT, SHOULD NOT BE WASTED. HOW I EVEN MANAGED TO LAND WITHOUT A CRACK-UP WILL NEVER BE KNOWN. THE LUCK OF THE IRISH TRIUMPHED THAT DAY"

The last of 'the Few'

Of the 2,936 RAF aircrew that flew with Fighter Command during the Battle of Britain, one fifth came from overseas and represented 15 nationalities. The Irish were among the smallest numbers of non-British personnel but as of July 2020, there remains only one surviving pilot from the entire battle – an Irishman called John Hemingway.

Born on 17 July 1919 in Dublin, Hemingway entered the world during a turbulent time in Anglo-Irish history. Sinn Féin politicians had formed the First Dáil (Parliament) on 21 January 1919 and declared Irish independence while Michael Collins's revolutionary 'Squad' performed their first assassination less than a fortnight after Hemingway's birth. Bitter guerrilla warfare against the British defined his infancy but the Dubliner joined the RAF in 1938 and became a pilot officer in 85 Squadron.

Flying Hurricanes, Hemingway first saw combat during the Battle of France where he shot down a Dornier Do 17 bomber on 11 May 1940 before being shot down himself by anti-aircraft fire on the same day. The squadron was quickly withdrawn from France but Hemingway continued to fly air support missions during the Dunkirk evacuation. During the Battle of Britain he was shot down twice, including off Clacton-on-Sea, Essex, where he spent hours floating in the water miles from land before he was rescued.

Hemingway managed to damage a Bf 109 on 31 August 1940 but 85 Squadron suffered heavy losses and had to be temporarily withdrawn from service. He was promoted to flying officer and awarded the DFC in July 1941 but airborne luck eluded him. Hemingway was exhausted by the battle and performed light duties until he was given command of 43 Squadron in Italy in 1945. He was shot down for a fourth time by ground fire and was yet again forced to bail out.

Hemingway managed to survive these dangers with only minor injuries and remained in the RAF until he retired as a group captain in 1969. Now living in Dublin, he has become the last of 'the Few' and represents that small band of airmen who saved Britain and altered the course of WWII. When he was interviewed by the *Daily Mirror* in November 2019 he reflected on his wartime service, "I lived through extraordinary times but I don't see myself as exceptional in any way. I'm only one of the pilots during the Battle of Britain, many of whom were killed or injured. Everyone played their part. This is not false modesty, it was characteristic of those times and the culture of my squadron – to be resolute, realistic and not to dramatise those very dramatic times."

Four airmen wheel out Brendan Finucane's Spitfire, 26 February 1942

© Getty

WAAFS RISK, SKILL AND RESPECT

Craig Murray, curator of Imperial War Museum, Duxford explains the vital ground role that the Women's Auxiliary Air Force played during the Battle of Britain

WORDS: TOM GARNER

Craig Murray is the lead curator for the redevelopment of IWM Duxford's Ops Block and is an expert on the airfield's history

"TAKING ON ALL MANNER OF GROUND SUPPORT ROLES, INCLUDING RADAR DETECTION AND AIRCRAFT PLOTTING, THE WAAFS OFTEN PERFORMED THEIR DUTIES IN FRONT-LINE CONDITIONS"

© Getty

While the pilots of RAF Fighter Command defended the skies of Britain during the summer of 1940, they were supported by dedicated ground crew who kept them in the air and provided vital assistance. Arguably the most visible element of 'the Many' on the ground were the personnel of the Women's Auxiliary Air Force. Commonly known as 'WAAFs', these women experienced the battle first-hand and played a highly active role.

Taking on all manner of ground support roles, including radar detection and aircraft plotting, the WAAFs often performed their duties in front-line conditions. They maintained the command and control network that kept the RAF functioning but danger from air raids was an acute reality. The WAAFs' courage was officially recognised with the awarding of Military Medals to six of their number during the battle and their service greatly impacted the role of women within the British armed forces.

One of the WAAFs' stations during the battle was the critical airbase of RAF Duxford in Cambridgeshire. Now part of the Imperial War Museum, IWM Duxford is Britain's largest aviation museum. Overseen by Lead Curator Craig Murray, the museum is redeveloping its former 'Ops Block' in time for the 80th anniversary commemorations of the battle. Here, Murray discusses the role of the WAAFs, the variety of jobs they performed and the high-stakes tension they endured while performing their crucial contribution to Britain's survival.

When were the WAAFs created and what was their overall role?

There was a Women's Royal Air Force between 1918-20 but the Women's Auxiliary Air Force was created on 28 June 1939. They were given basic training and WAAFs could be identified for certain skills. They never served as aircrew although women did work as part of the Air Transport Auxiliary, which was a civilian organisation that was responsible for delivering aircraft to airfields. This was so pilots didn't have to waste their time bringing new aircraft to airfields from factories etc.

The WAAFs had a whole range of roles from mechanics, caterers, clerks, radio operators, packing parachutes for pilots and technical work like plotters in Ops Rooms or on radar.

Where were the WAAFs deployed during the Battle of Britain?

There were a lot in southeast England where 11 Group was based. That's where the action was and a lot of WAAFs were stationed at 11 Group's headquarters at Uxbridge. They had a

A WAAF takes the salute, c.1940

WAAF plotters receive reports of enemy aircraft activity from the Observer Corps in the Sector 'G' Operations Room at RAF Duxford, September 1940

Image: IWM / PD / CC

fairly hectic job because they were dealing with multiple raids a day as opposed to Duxford which wasn't attacked so often.

The WAAFs in 11 Group would have constantly had plots coming in from radar stations and the Observer Corps. It would have been a real hive of activity but it was highly stressful with a lot of tension. You would have seen a large concentration of WAAFs in those stations but they would have been all over the country as and where they were needed.

What did the work on radar involve?

There were WAAFs who worked in radar stations on the coast where they would work with the instrumentation and calibrate them. They would work out where an air raid was, what their numbers were and that information was sent back the 'Filter Room' at Bentley Priory, which was Fighter Command's headquarters. That was then sent to the WAAFs at the relevant sector station tables where they received the radar information directly. They would then process that information on the plotting table.

How important was the their role as plotters on RAF Operating Tables and what did the role involve?

The WAAFs who worked on the Operating Table were something of an elite. One WAAF veteran from Duxford remembered being asked during her job interview, "Can you knit and talk at the same time?" This was because the receiving of plots, which could sometimes be fairly rapid, required being able to think very quickly on your feet and do multiple things at the same time. It was a high-pressure, highly skilled job.

"THE RECEIVING OF PLOTS, WHICH COULD SOMETIMES BE FAIRLY RAPID, REQUIRED BEING ABLE TO THINK VERY QUICKLY ON YOUR FEET AND DO MULTIPLE THINGS AT THE SAME TIME. IT WAS A HIGH-PRESSURE, HIGHLY SKILLED JOB"

Their work was vital and there were generally two types of plotter around the table, which was a big map. You had WAAFs who were plugged into radios for the chain of home radar stations and some were plugged into the Observer Corps.

Luftwaffe air raids generally formed over Calais and the WAAFs would receive instructions from Bentley Priory's Filter Room. This had come from the radar stations and the WAAFs would then start to put blocks on the table. These described where the raids were coming from, the possible height of enemy aircraft and the numbers involved.

At this point, radar could only look out to sea so once a raid crossed the coast the spotting of aircraft fell to the Observer Corps. It was essentially human eye detection and observers used binoculars and other instruments to estimate the number of aircraft and the direction they were moving in.

They sent information back to their own Filter Room, which then got sent to the WAAFs who dealt with the observation side of things. They would put new blocks on the table as information came in. As new plots of where the aircraft were came through they would move these blocks around.

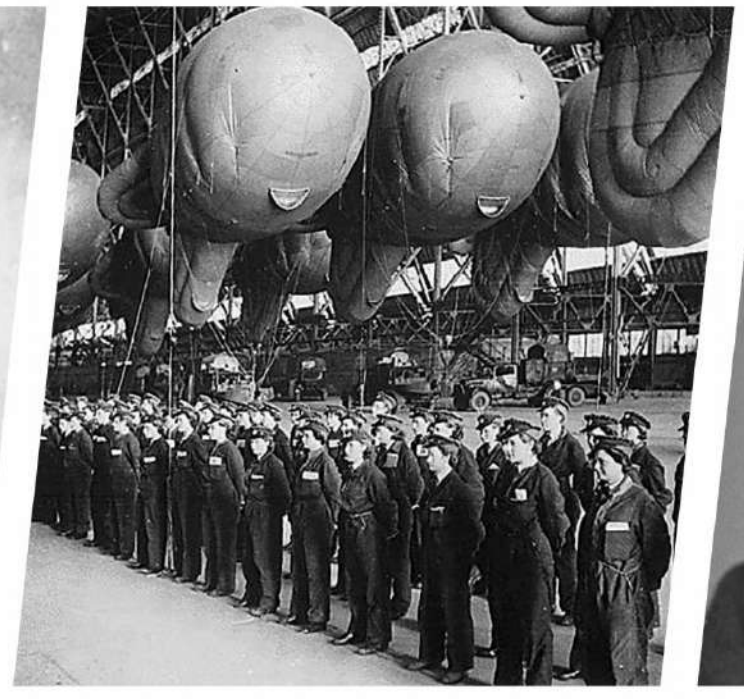
The WAAFs continually received new plots. They would update the numbers, move the blocks to the direction where the plot is coming from and take old blocks off the table. Plots usually came in every five minutes during the Battle of Britain but as the war progressed plotting time became quicker. Bentley Priory's Filter Room became more efficient and they got more experts in so they could process this sometimes huge amount of information very quickly.

When air raids were going on, particularly in 11 Group, the WAAFs would have had busy days and it was pretty hectic stuff. The way the Operations Room was designed meant that everyone could see what was on the table. The plotting was most pertinent to the controllers and they could visually see what was happening, which was obviously very important. Just by looking down they could see exactly where things were and make decisions from that to work things out. It was highly important that the plotting was accurate and that the WAAFs got it right.

Promotional poster to encourage women to join the Women's Auxiliary Air Force

© Getty

Assistant Section Officer Noor Inayat Khan was awarded a posthumous George Cross for her service as an SOE agent in France after serving with the WAAF



WAAF balloon operators report for inspection before going off duty after a training day. Balloon Command consisted of 1,466 balloons at the start of the Battle of Britain

Air Chief Commandant Dame Jane Trefusis-Forbes was appointed a Dame Commander of the Order of the British Empire in January 1944

Images: IWM / PD / CC

What was their role in Balloon Command?
One of the most demanding jobs was in barrage balloon handling because it required using winches and cranes to get them up and down. Unlike many of the other roles, this required a lot of shifting. The WAAFs operated at barrage balloon sites where the balloons had to be filled and there was a lorry with a winch to raise them up and down. They also had to be tied down so that they wouldn't fly off. It was quite a physical task because the balloons had to be raised when an air raid was coming and then moored.

At the time there were some concerns that the WAAFs wouldn't have the physical strength or stamina to handle the balloons. They were over 60 feet long and 30 feet high but the women did it quite successfully.

They ran around 1,000 sites throughout Britain and although it was a physically demanding job they did do it.

How dangerous was it to serve as a WAAF?
Being a WAAF working within bombing range certainly had its risks, particularly if you worked in 11 Group. For example, RAF Biggin Hill – which was a main sector station – was a bombed a couple of times. Their Ops Room was destroyed at one point and they did have loss of life there. There was that danger if you were in these 11 Group stations, particularly ones close to the Kent coast where the Luftwaffe could more readily target them. There was a danger of being killed and you certainly weren't safe even if you were away from the front line.

Also, some WAAFs later worked with the SOE [Special Operations Executive] in Europe where they were trained as agents. That was an extremely dangerous job although it only involved a small number of WAAFs. There was one woman called Noor Inayat Khan who was originally from India and worked in France as a radio operator for the SOE. She was arrested by the Gestapo and executed in 1944 so her story is an example of just how dangerous WAAF work could be.

What was the job of commanding officer Jane Trefusis-Forbes during the battle and how did she work with the RAF high command?
Trefusis-Forbes was the director of the WAAFs from 1939. They had different ranks to the rest of the RAF and she was initially the senior controller. That rank changed to air commandant from 1940, which was the equivalent of a modern air commodore or army brigadier. Trefusis-Forbes would have liaised with RAF officers at command level. Her job was to work out what the WAAFs needed to do and how they could best assist in their vital role for the defence of Britain.

How were the WAAFs regarded by their male counterparts in the RAF?
Generally speaking, they were respected for the job they did. There would have undoubtedly been some kind of sexism but I think they were generally well respected because it was known what they were doing. The WAAFs did everything, were everywhere and did important jobs. They weren't just there to be pretty faces or do menial tasks – they were doing skilled jobs.

The WAAFs themselves had a deep concern for the pilots when they were going up on patrols. They may not have known some of them but WAAFs I have interviewed in the past said there were always tense moments when pilots engaged the enemy and not knowing if they would come back. There was a strong feeling that they were all part of a team and doing a job together.

To what extent did the Battle of Britain enhance the reputation of the WAAFs and influence their role for the rest of the war?
The RAF could see how good the WAAFs were at their job. For example, Duxford had one WAAF plotter called Peggy Balfour who ended up working as 'Ops B' during 1941-42. This was the second-most senior member of staff who worked on the dais. The controller was the most senior person who spoke to the fighters and gave them directions to the target but the Ops B dealt with scrambling squadrons and keeping them updated on the boards and wall. These electric or handwritten 'Talk Boards' told you the status of a squadron at all times when it was in the air. Balfour had risen to that level of fighter control from being on the plotting table so the role and skill of the WAAF was definitely recognised.

What can visitors to IWM Duxford expect from the newly transformed 'Ops Block' and to what extent is it a tribute to the WAAF?
We're retelling the story of the Battle of Britain from 15 September 2020 but from a Duxford perspective. We're telling the general story of the battle as a whole but the Ops Block is more concerned with Duxford's story.

There were certain offices in the Ops Block that hadn't been used for years but these have all now been refurbished, gutted out and become exhibition spaces. One of the main rooms down the end is going to be home to a film so the whole place will be transformed in a way it never was before. In the past you could just see the actual Ops Room itself, which was done in the mid-1980s and hasn't been changed since. It's very good and people really liked it but we thought it was time to really update it, particularly for the 80th anniversary this year. We're making full use of the entire building rather than just one room.

For the new exhibition we're also looking a lot at what the WAAFs did in the Ops Room. We have rooms that feature the different people in the Ops Block itself and there is an entire room dedicated to the WAAFs. They also appear in the Ops Room itself and there are examples of the equipment they used and the story of what they did.

IWM Duxford has refurbished its Ops Block in time for the 80th anniversary of the Battle of Britain. For more information visit:
www.iwm.org.uk

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AS THE GREAT WAR DESCENDED INTO AN ENTRENCHED stalemate of attrition across the Western Front, the ability to gain a birds eye view of the battlefield situation and more specifically, your enemy's strengths and weaknesses became of huge tactical importance. This information was initially obtained by deploying tethered observation balloons, however, whilst these did provide limited information, they were relatively inflexible and required a large number of men and equipment to operate. With the aeroplane already beginning to show its military potential, crews were not restricted by the length of a steel cable and armed initially with a pencil and paper and later with specialist cameras, they were able to provide commanders with an accurate picture of the current situation. It now became of critical importance to deny your enemy the ability to secure this information and stop these reconnaissance flights from taking place.

Occupying a significant, if rather sinister position in the history of aviation, the Fokker Eindecker was introduced by the Imperial German Flying Corps during the summer of 1915 and was the first true fighter aircraft, a machine specifically designed to dominate the skies. Coming less than twelve years after the Wright Brothers had made their famous first flight, the Eindecker was still a relatively primitive aircraft and required a great deal of skill to be flown well, however, it incorporated technical innovation which made it a deadly adversary. The introduction of an effective interrupter gear system synchronised the aircraft's machine-gun to fire through the arc of the propeller, only allowing it to fire once the blade was clear and crucially, in the pilot's direct line of sight. German pilots such as Max Immelmann, Oswald Boelcke and a man who would go on to become the most famous fighter pilot of all time, Manfred von Richthofen, were now free to develop tactics which allowed them to become knights of the air, dominating the skies and denying their enemies the ability to operate unchallenged. Their devastating period of aerial domination became known as the 'Fokker Scourge' and whilst many Allied aircraft were destroyed during this period, the age of the fighting aeroplane had arrived and the Eindecker's domination would soon be challenged.

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“AND EVERY CHANCE BROUGHT FORTH A NOBLE KNIGHT”

The summer of 1940 saw wave after wave of Luftwaffe attacks, placing pilots, ground crew and supporting personnel under critical pressure. Pilots, including men from across the Empire and around the world, bore the brunt of German attack, but men and women on the ground were also in the firing. Their bravery and resolve helped resist the enemy offensive

WORDS: TOM GARNER

DOUGLAS BADER, CBE, DSO AND BAR, DFC AND BAR

SQUADRON LEADER, 242 SQUADRON

This legendary ace lost both his legs in a pre-war flying accident, but that didn’t stop him help turn the battle in Britain’s favour

Bader was shot down over France in 1941 and captured. While a POW, he tried to escape so often that the Germans ended up confiscating his tin legs

Aged 30 during the battle, Douglas Bader was older than most RAF pilots and his leadership was to prove inspirational to the younger men under him. This was especially true when, on 15 September, the Luftwaffe launched its largest attack against London in the mistaken belief that Fighter Command was so stretched it could destroy its remaining aircraft in one go. The skies were filled that day with 1,500 aircraft and the dogfights lasted until dusk.

With the fighter squadrons attacking in Big Wing formations of up to 60 planes – a tactic Bader endorsed – the RAF inflicted colossal damage on the Luftwaffe at little cost to themselves. For Bader it would prove a particularly successful day. Just after noon, his wing ran into a great mass of aircraft, both British and German, outside London. In fact the skies were so busy that, according to the report he later gave an intelligence officer, his wing “had to wait until Spitfires and Hurricanes engaging the enemy broke away”. Once they had, Bader sent his Spitfire force to attack the German fighters, while he and his Hurricane pilots got stuck into the bombers.

Typically Bader led from the front, getting the first kill. His report reveals, “[Bader] opened fire at 100 yards in a steep dive, and saw large flash behind the starboard motor of the Do 17 as its wing caught fire. He attacked another E/A [enemy aircraft] but it was difficult to get them in his sights as the sky was so full of Hurricanes queuing up to attack E/A. As all the bombers were destroyed S/Ldr Bader’s comments are worthy of repetition, ‘It was the finest shambles I’ve been in. For once we had position, height, and numbers’.” He was right, 15 September proved to be the tipping point of the entire campaign.

GEOFFREY WELLUM DFC

PILOT OFFICER, 92 SQUADRON

Aged just 18 when the battle started, he officially became the RAF's youngest fighter pilot

Geoffrey Wellum's first sorties as a Spitfire pilot had come in May 1940, covering the evacuation of the British army from Dunkirk. He then flew several sorties a day from his base at Biggin Hill, Kent, during the opening part of the Battle of Britain, protecting shipping in the Channel. Nothing, however, could prepare the teenager for what he was to witness on Eagle Day when, on the afternoon of 13 August 1940, the Luftwaffe sent almost 1,500 aircraft to destroy RAF Fighter Command's bases. In his 2009 memoir *First Light*, Wellum vividly recalls the spectacle he encountered shortly after being scrambled early in the afternoon. "Within seconds we're among them," he wrote, "each man for himself, fighting his own private battle. Things move terribly quickly. There seem to be hundreds of aeroplanes with everybody shooting at everybody else. I am taken by surprise by the sheer size of this battle in this tremendous arena. Wherever I look the sky is full of aircraft.

"I clamber for height and I have an uninterrupted view. It's magnificent yet appalling. Junker and Heinkel bombers split up, their formations largely decimated, as they head back towards the coast. A Junkers goes down well and truly on fire. Yet another plummets to the ground. Three of the crew bail out and only one chute opens, the other two Roman candle. I can see the man at the end of one quite clearly, arms and legs thrashing as he plunges earthwards. A Spitfire spins down and a Hurricane dives away, a long trail of black smoke behind it and, at its base, a bright angry red flame. I am transfixed. I don't see anyone bail out. Yet another aircraft goes down in a steep dive. A large one, looks like a Heinkel. My God he's shifting for a big plane and, oh goodness, streaming out behind is a man on the end of a parachute, caught up round the tail and flailing about like the tail of a kite. He may be a Hun, but I wouldn't wish a death like that on anyone."

Decorated for heroism, the huge psychological strain of aerial warfare eventually told on Wellum. He was withdrawn from combat operations in 1943

Source: Wiki / PD / CC

JAMES BRINDLEY NICOLSON VC, DFC

FLIGHT LIEUTENANT, 249 SQUADRON

Fighter Command's sole recipient of the Victoria Cross, not just of the Battle of Britain, but of the entire Second World War

Despite the extraordinary heroism of 'the Few', just one of their ranks received Britain's highest military honour, the Victoria Cross. When you're fighting alone high above the clouds, finding witnesses to corroborate individual acts of valour can be tough. In James Nicolson's case, however, his heroics happened low enough to be seen by astonished observers on the ground.

By 16 August the German raids were relentless. British losses were mounting, and things were getting desperate. Around noon a wave of German planes descended on Southampton. Hurricanes from 249 Squadron were scrambled to intercept them. Among the pilots was 23-year-old Nicolson. Moments into the fray he was jumped by German fighters. Shells smashed into his plane, hitting his left eye and foot. The petrol tank was also hit. Fuel poured into the cockpit where it was ignited by the heat of the engine. With his cockpit ablaze, Nicolson slid back his canopy to bail out, but at that moment an enemy bomber swung in front of him. Despite his plane fast becoming a fireball, Nicolson climbed back into his seat. With only one good eye, up to his waist in flames and with his hands blistering on the controls, he closed in on the German plane. Only when he'd completely destroyed it did the badly burned Londoner bail out, landing unconscious just outside Southampton.

"WITH ONLY ONE GOOD EYE, UP TO HIS WAIST IN FLAMES AND WITH HIS HANDS BLISTERING ON THE CONTROLS, HE CLOSED IN ON THE GERMAN PLANE"

After recovering from his wounds, Nicolson returned to active service. In 1945, a plane he was in crashed off the Indian coast. His body was never found

Source: Wiki / PD / CC

Source: Wiki / PD / CC

ERIC LOCK, DSO, DFC

PILOT OFFICER, 41 SQUADRON

One of the highest-scoring RAF aces of the battle, who managed to shoot down three enemy aircraft in one brief sortie

By the start of September, combat had been so intense that many pilots had already notched up more than five kills, giving them the coveted title of 'Fighter Ace'. On 5 September, 21-year-old Eric Lock from Shrewsbury joined them when he added to his tally by shooting down three enemy planes in a matter of minutes.

His combat report reads, "We intercepted a formation of enemy aircraft, attacking the bombers first I engaged a He111, which I followed down until it crashed. I climbed back up to 8,000 feet, saw another He111, engaged that and set his starboard engine on fire. I closed in to about 75 yards and fired two long bursts. Smoke came from the fuselage. I was then attacked by a Me109 who wounded me in the leg. As he banked away, he stall-turned. I fired at him. He exploded in mid-air."

The understated tone of Lock's report belies the true terror of the deadly game of cat and mouse that was being played out up in the clouds. By the time his squadron intelligence officer had typed this report up, Fighter Command had lost more than 500 planes while nearly 250 pilots had lost their lives.

Altogether Lock shot down 26 enemy aircraft during the campaign. In 1941, he was shot down over Calais. His remains have never been found

Source: Wiki / PD / CC

ELSPETH HENDERSON, MM

CORPORAL, WOMEN'S AUXILIARY AIR FORCE (WAAF)

A young woman from Edinburgh who proved she was as brave as any man

Without women like Elspeth Henderson and the Dowding System that she helped operate, Fighter Command would have soon succumbed to the mighty Luftwaffe. Named after Air Chief Marshall Hugh Dowding, the system was the world's first ground-controlled interception network. It linked observation posts and newly developed radar stations via phone lines to airfields, and anti-aircraft batteries. Its ability to forewarn of enemy attacks meant already overstretched squadrons didn't need to constantly patrol the skies but could instead be scrambled in a heartbeat. Its role was to prove pivotal and people like 27-year-old Henderson soon found themselves on the front line.

Towards the end of August, RAF Biggin Hill, where Henderson was stationed, was under daily attack. On 30 August, one raid hit a shelter there killing 39 and entombing many others. Henderson was among the first to start digging them out.

The following day, as she was managing the phones in the operations room, the bombers returned. This time they scored a direct hit on the building she was in. It was engulfed in flames, and the survivors were ordered to evacuate immediately. Henderson, however, remained at her post and continued to pass on vital information. Only when the smoke became overwhelming did the young Scot escape via a shattered window as bombs exploded all around her.

Just six women in the WAAF won the Military Medal during the war. Henderson was one of them. Her citation noted that she'd been awarded it for displaying "courage of an exemplary order".

Henderson (and below) with Air Chief Marshall Dowding. Houses now stand where RAF Biggin Hill once did, and Henderson has a road there named after her

Source: Wiki / PD / CC

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GERMANY'S FIGHTER ACES

With 111 kills between them, the top three Luftwaffe marksmen accounted for over seven percent of all RAF losses

OBERLEUTNANT HELMUT WICK

BATTLE OF BRITAIN KILLS: 42

Source: Bundesarchiv, Bild 146-1968-015-19 / Striemann / CC-BY-SA 3.0

Wick was the highest-scoring pilot of the entire Battle of Britain. The 25-year-old became only the fourth member of the German armed forces to be awarded the King's Cross of the Iron Cross with Oak Leaf Clusters. He was killed in combat over the Channel in November 1940.

MAJOR ADOLF GALLAND

BATTLE OF BRITAIN KILLS: 35

Source: Bundesarchiv, Bild 146-2006-0123 / Hoffmann. Heinrich / CC-BY-SA 3.0

Galland would go onto become the youngest general in the German military, attaining the rank of General of the Fighter Arm in 1941. His total number of kills for the war was 104, despite being banned from combat between December 1941 and of the end of 1944 by Hitler himself.

HAUPTMAN WALTER OESAU

BATTLE OF BRITAIN KILLS: 34

© Getty

By the time the Battle of Britain started, Oesau was already a veteran of the Spanish Civil War, the invasion of Poland and The Battle of France and had 14 kills. By the time he was killed in May 1944 by an American pilot, he'd extended that tally to 127.

RAY HOLMES

FLIGHT SERGEANT, 504 SQUADRON

This pilot's heroics saved Buckingham Palace from certain destruction – and he managed it without bullets

By 11 October, the Battle of Britain was over. While Hitler hadn't officially cancelled the invasion of Britain, he had officially postponed it. It marked a true turning point in the war. It was Nazi Germany's first defeat and proof the Führer's ideologically driven killers weren't invincible. What didn't stop, however, was the bombing of Britain, which would intensify over the next seven months as the Battle of Britain dovetailed into the Blitz.

London had first been bombed on 24 August, accidentally and against the express orders of Hitler himself as it turned out. But the revenge bombing of Berlin by the RAF the very next day so infuriated him that the focus of the Battle of Britain was switched from destroying Fighter Command to destroying Britain's infrastructure. It was to prove a costly error. The great raids sent to terrorise London began in earnest on 7 September, and had soon become a regular occurrence.

On Sunday 15 September at 11.30am, a force of 100 bombers and 200 fighters approached London. As they were tracked by the radar station at Uxbridge, where Churchill just happened to be visiting the operations room that day, 250 fighters were despatched to deal with them.

By noon, the surviving bombers arrived over central London. Here they were engaged by Hurricanes from 504 Squadron. One was being piloted by 24-year-old Ray Holmes who attacked several bombers, before latching onto a badly damaged one heading straight for Buckingham Palace. Holmes wasn't to know, but the plane was actually unmanned. It'd been so badly shot up over south London that its crew had bailed out. Its pilot Oberleutnant Robert Zehbe had left the plane on a fixed course, before parachuting to what he thought was safety. Coming down near the Oval cricket ground, however, he was attacked by an angry mob and later died of his wounds. Crewless it may have been, but Zehbe's bomber still had a full payload, enough to obliterate the palace. Holmes closed in behind it, lined it up in his sights, and pressed the Hurricane's trigger. But he was out of ammo. The young Liverpudlian then made a desperate decision. "There was no time to weigh up the situation," he revealed afterwards. "[The German] aeroplane looked so flimsy. I just went on and hit it for six. I thought my plane would cut right through it."

Flying at over 400mph, Holmes rammed the German bomber's tail. It caused his Hurricane to plunge into a steep nosedive. He was forced to bail out, but the impact had also snapped the bomber in two, and had flipped the remaining fuselage over so wildly that the g-force ripped both its wings off. The bomb load then fell free and although part of it did hit the palace, the bulk missed, while the plane itself was knocked clear. It ended up crashing by Victoria Station without further loss of life. Holmes's staggering courage had ensured a vital part of Britain's heritage would survive the war.

Source: Wiki / PD / CC

Inset above: *A Dornier Do 17 bomber of Kampfgeschwader 76, brought down on 15 September 1940 in Shoreham field*

The plane that Holmes rammed out of the sky hit shops close to Victoria Station. His plane crashed nearby at Ebury Bridge on Buckingham Palace Road

Source: Wiki / PD / CC

JOHN A. KENT DFC & BAR, AFC

FLIGHT LIEUTENANT, 303 SQUADRON

An adopted ace of the famous Polish squadron, whose comrades nicknamed him 'Kentowski'

Source: Wiki / PD / CC

Born in Winnipeg, Manitoba, Kent was the youngest commercial pilot in Canada before he joined the RAF in 1935. First flying unarmed Supermarine Spitfires in France with the Photographic Development Unit, he was attacked by a Messerschmitt Bf 109 and crash-landed. He converted to Hawker Hurricanes on 15 July and joined 303 Squadron on 2 August as a flight lieutenant and commander of 'A' Flight. 303 was a newly formed unit of mostly Polish pilots based at RAF Northolt and the unit's success became famous.

During the Battle of Britain, 303 claimed the largest number of aircraft shot down by Allied squadrons; despite commencing operations two months after the battle began. Kent himself achieved his first combat victories on 9 September 1940 when he shot down a Bf 109 and Junkers Ju 88. On 15 September he led nine Hurricanes into a dogfight over London against a much larger German forces. Nine victories were claimed by these Hurricanes and the squadron claimed an additional six by the end of the day.

Kent learned Polish phrases and developed a deep mutual respect with the Polish pilots who affectionately nicknamed him 'Kentski' or 'Kentowski'. He later wrote of the Poles, "They were so brave that you didn't dare show a sign of fear even if your heart was in your mouth." He was awarded the DFC on 25 October 1940 before being transferred to command 92 Squadron. For his achievements with 303 Squadron he was awarded the Silver Cross of the Polish War Order of Virtuti Militari. Kent ended the war as a wing commander with total combat victories of 13 destroyed aircraft.

ALBERT GERALD LEWIS DFC & BAR

FLYING OFFICER, 504 & 249 SQUADRON

The courageous son of empire who gave nearly everything to defend what he'd have called the mother country

As well as Britain and Europe, Fighter Command pilots came from all over the British Empire. One of the finest was South African Albert Lewis and as the campaign began drawing to a close at the end of September, he experienced the best and worst that life as an RAF fighter ace offered. On 27 September, he shot down an astonishing six aircraft in one day, taking his tally for the war to 18. The very next day, however, he was shot down himself.

While returning from a patrol, the 22-year-old was jumped by a pack of German fighters. His plane was hit at 30,000ft. Shrapnel tore through his legs and his Hurricane caught fire. Flying at 350mph, the blaze soon whipped up into an inferno. "When I pulled back the canopy," he later recalled, "the flames roared up around my face. I pulled the release of my harness and got out. The suddenness with which I parted company with the plane caused me to be shaken around like an old rag."

Lewis landed safely but had suffered severe burns to his legs, hands, throat and face. His eyes were also so badly scorched that he was blind for two weeks.

THE BATTLE OF BRITAIN AT A GLANCE

Source: Wiki / PD / CC

MESSERSCHMITT BF 109E

Engine Daimler-Benz 1200hp V12 605D
Wingspan 33ft/9.91m
Max Speed 343mph/553kmh
Armament 30mm Mk108 cannon, two 13mm MG17 machine-guns
Range 410m/660km

GERMAN AIRCREW LOSSES
2,698

GERMAN AIRCRAFT LOSSES
1,887

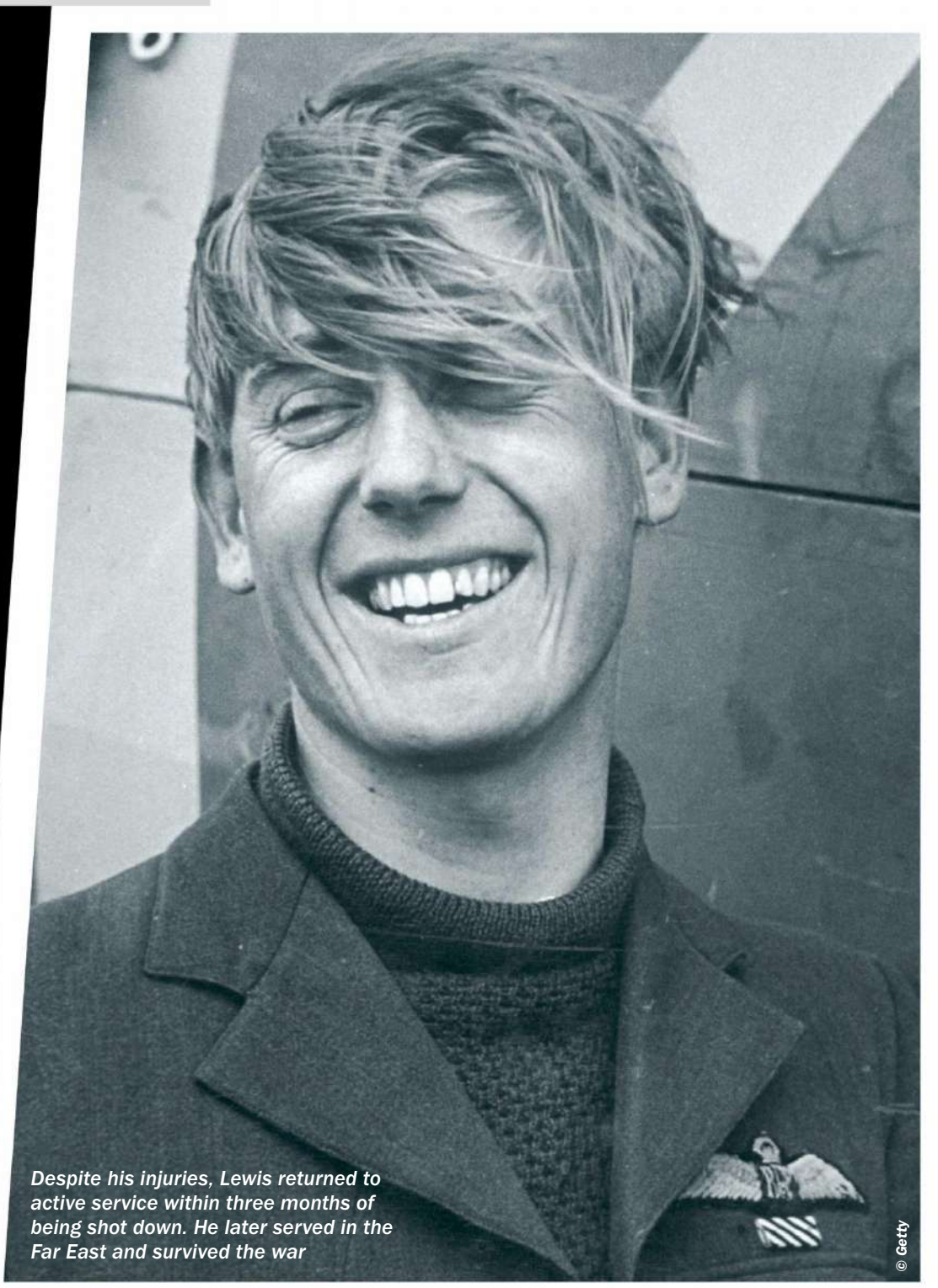
Source: Wiki / PD / CC

SPITFIRE MK1A

Engine Rolls-Royce Merlin 1800hp V12 Mk III
Wingspan 36ft 10in/11.23m
Max Speed 362mph/582kmh
Armament 8 x .303 Browning Mk II machine-guns
Range 425m/680km

BRITISH AIRCREW LOSSES
544

BRITISH AIRCRAFT LOSSES
1,547



Despite his injuries, Lewis returned to active service within three months of being shot down. He later served in the Far East and survived the war

© Getty

JAMES LACEY DFM & BAR, CROIX DE GUERRE

FLIGHT SERGEANT, 501 SQUADRON

This farm worker's son from Yorkshire took huge risks to bag 18 kills and become the highest-scoring lower-rank pilot of the campaign

By 30 August, as the campaign neared its height, 23-year-old James Lacey was heading back to the coast after a dogfight that had left his plane riddled with 87 bullet holes. While still over the sea, though, his engine gave out. Lacey had bailed out before, but this time he was determined to get his Hurricane home.

Figuring that he had enough altitude, he decided to glide back to land – a distance of some 15 miles. Incredibly, his gamble paid off. Not only did Lacey reach land, but he also managed to put his plane down perfectly on the tarmac at RAF Gravesend.

"I was lucky," Lacey later recalled. "I was shot down nine times in the 16 weeks the Battle of Britain lasted. I once jumped from a plane that was burning end to end, and once from one that had no tail left. Waiting to go up terrified me. Waiting for that Tannoy to say 'scramble!'. It could make me physically sick. I didn't have butterflies in my stomach back then, I had vultures."

"I ONCE JUMPED FROM A PLANE THAT WAS BURNING END TO END, AND ONCE FROM ONE THAT HAD NO TAIL LEFT"

After the campaign, Sergeant Lacey was promoted to pilot officer. He ended the war with a final tally of 28 confirmed kills, and four probable kills

WALERIAN ZAK, DFC

FLYING OFFICER, 303 SQUADRON

Though far from his homeland this pilot was continuing the struggle against Nazi Germany

The men who flew with the legendary 303 Squadron were largely exiled Poles, men who'd seen first hand what the Nazis did to countries they conquered. Many also still had families suffering in occupied territory and this may partly explain their fearsome reputation and never-say-die attitude. Walerian Zak, who'd go on to lead the squadron, summed up these qualities during fighting over Sussex on the morning of 27 September.

Zak was one of 11 Hurricane pilots who attacked a bomber formation being protected by mass fighter escort. Despite being heavily outnumbered, they managed to shoot down 15 aircraft including seven bombers. But the kills didn't come without a cost. Two Polish pilots were killed and Zak's own plane was so badly shot up that it caught fire. As did he. Bailing out was his only option but fearing his parachute would catch fire, too, Zak elected to free fall thousands of feet in the hope it'd extinguish the flames. His gamble worked and, though badly burned, the 29-year-old then opened his parachute and landed safely.

Zak settled in Britain after the war. His medals, including the DFC he's being awarded here, can be seen today at London's Imperial War Museum

Source: Wiki / PD / CC

BIG WING
THE BIG DEBATE

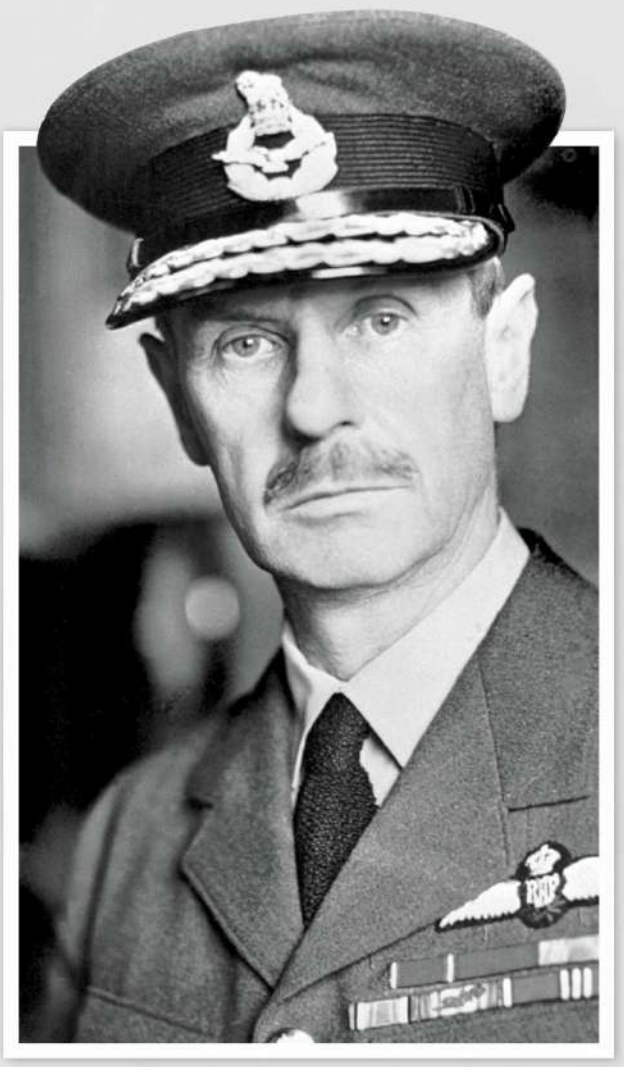
A matter of intense disagreement at the time, the Big Wing tactic continues to be a great source of disagreement 80 years later. Tied up with the politics of the battle, the issue still evokes strong emotions on both sides

WORDS: **STUART HADAWAY**

In the summer of 1940, RAF Fighter Command was engaged in a desperate fight for survival against the German Luftwaffe. Fighter Command, under the command of Air Chief Marshal Sir Hugh Dowding, was divided into regional Groups. No. 11 Group, under Air Vice Marshal Sir Keith Park, protected the skies of London and the southeast. They were closest to the continent and naturally bore the brunt of the fight. To their west was No. 10 Group under Air Vice Marshal Sir Christopher Quintin Brand, also heavily engaged. To the north of London was No. 12 Group, commanded by Air Vice Marshal Sir Trafford Leigh-Mallory. Each Group was split into Sectors which had their own geographical area and assigned squadrons.

Dowding had been instrumental in constructing the UK's Integrated Air Defence System, often known as the 'Dowding System', in the late 1930s. Based on new technology (most famously radar, but also radio communications), this was a very new and complex system that was still plagued with teething problems. The system allowed an unprecedented level of command and control, allowing the RAF to track attackers and direct defenders right up to the correct interception point. But there were also gaps. The radar stations around the coast only faced outwards; once inland, the system relied on visual sightings to track the enemy. Also, limitations in the HF radio technology (although improved

For No. 11 Group, the pressures to get airborne in time to hit the enemy before they dropped their bombs was immense



Sir Hugh Dowding was the architect of Britain's survival in 1940, but his hands-off command style allowed friction between his senior commanders

VHF was slowly being introduced) meant that each Sector Operations Room could only control a limited number of squadrons at a time, and squadrons struggled to talk to each other. To prevent confusion, the radio sets in each Group's aircraft had crystals that only operated on its own Group's frequencies. Other problems were more intrinsic to the strategic situation and other practicalities. For example, limits in the radar's range meant that No. 11 Group's fighters would barely have time to scramble and climb to the right altitude if they were to engage the enemy before they dropped their bombs. Despite these issues, No. 11 Group attained interception rates of over 70 percent.

The Big Wing argument started with one of Leigh-Mallory's pilots, Squadron Leader Douglas Bader, in late July. Bader had flown in large wing formations (i.e. three or more squadrons flying together) sent by Park to cover the Dunkirk evacuation. However, Park had abandoned Big Wings in July 1940, when the proximity of the enemy meant he barely had time to get his pilots airborne, let alone forming them up into larger units. Bader felt that bigger formations would inflict heavier casualties on the enemy, while also lowering RAF casualties. Leigh-Mallory began to experiment, and when Park called for reinforcements over the north of No. 11 Group, he began to form his units into wings of three to five squadrons. Unfortunately, this took time, so that the reinforcements were often late in arriving, to Park's fury. In total, Big Wings would only achieve an interception rate of 20-25 percent. When they did engage, massive over-claiming (even by the standards of the time) saw highly inflated numbers of 'kills' attributed to them, although on the other hand their own casualties were indeed low.

This began a dispute between Park and Leigh-Mallory, of which Dowding was aware but did nothing to stop. Further problems followed. On several occasions the Big Wings strayed from their designated patrol areas. This not only left gaps in the defences, but also caused confusion as large formations suddenly appeared over northern Kent which the local controllers were unable to communicate with. To make matters worse, units from No. 11 Group had to be diverted to identify them in case they were hostile.

Growing disagreement between the two Group commanders, and Dowding's lack of intervention, led to the issue being escalated to the Air Ministry, where a famous meeting was held on 17 October 1940. Curiously, by then the Big Wing question had largely been solved. The switch of German attention to London from 7 September had changed many things. The increased distance to the target gave Park the time he needed to start forming and using small wings of two squadrons, while the use of Big Wings over London proved to be very effective, especially on 15 September. Leigh-Mallory had never argued that No. 11 Group should use Big Wings itself, and had only wanted to make best use of his forces. Park had never been against larger formations, but had seen them as unsuitable to No. 11 Group's situation and as causing unacceptable delays in the arrival of reinforcements. From mid-September there was little reason to argue, and by mid-October the Germans had begun to switch to night bombing anyway.

Unfortunately, the Big Wing controversy would become tied up with a wider controversy over the supposed 'removal' of both Dowding and Park in late 1940. In truth, there was little sinister about these postings. Dowding had already had his retirement postponed several times, and was the second-oldest air rank officer in the RAF. Now, he was failing to deal with the growing night bombing problem, while he had shown a lack of firm leadership in the Big Wing dispute. Park had only been in his post since April, but during these eight months he had taken the brunt of the responsibility for the defence of the UK. He was exhausted and needed rest, while his posting to command No. 23 Group in Flying Training Command was hardly a dismissal; instead, it was a vital chance to shape the rapidly expanding RAF to meet a modern war. His later career, culminating as Allied Air Commander, South East Asia, shows he was far from discarded.

The Big Wing controversy is still often misunderstood. Most things to do with the Battle of Britain are far more complicated than they first seem, and this is no exception. Unfortunately, the strong personalities involved, and the often polarised feelings of their modern defenders and detractors, muddy the Big Wing waters still further.

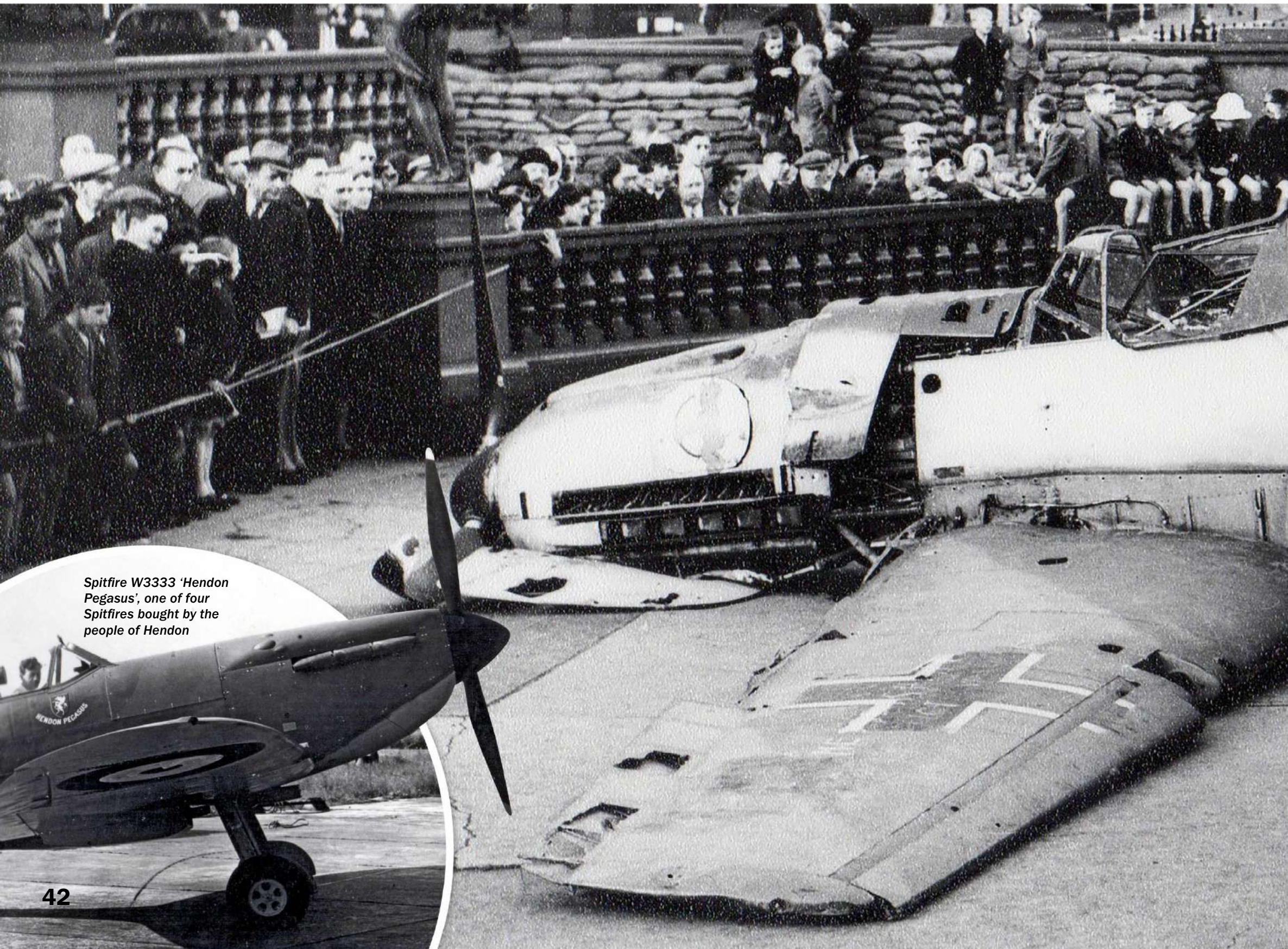
Often dismissed as a politician, Trafford Leigh-Mallory was killed in 1944, the only main player in the controversy who did not survive to tell his side of it

All images: Wiki / PD / CC unless stated otherwise

CROWDFUNDING 1940s STYLE

With the Luftwaffe successfully repelled by Fighter Command, a vigorous tour of the country began to raise morale, and money, in the wake of Britain's victory

WORDS: ANDY SAUNDERS



Spitfire W3333 'Hendon Pegasus', one of four Spitfires bought by the people of Hendon

Inspired by the deeds of RAF fighter pilots doing battle with the Luftwaffe the length and breadth of the country, and often witnessing such deeds, the British public were captivated by one fighter: the iconic Supermarine Spitfire. Somehow, the Spitfire's graceful lines and associated glamour of the men who flew them into battle outshone another aircraft that arguably bore the brunt of the battle: the purposefully pugnacious Hurricane. Even the Luftwaffe fell into the lure of the Spitfire with 'Spitfire snobbery'; downed pilots and aircrew only wanting to tell they had been downed by Spitfires. Even if it had been a Hurricane! As far as the British public were concerned, the Spitfire saved the day in 1940 and became their darling: revered, cherished and almost worshipped.

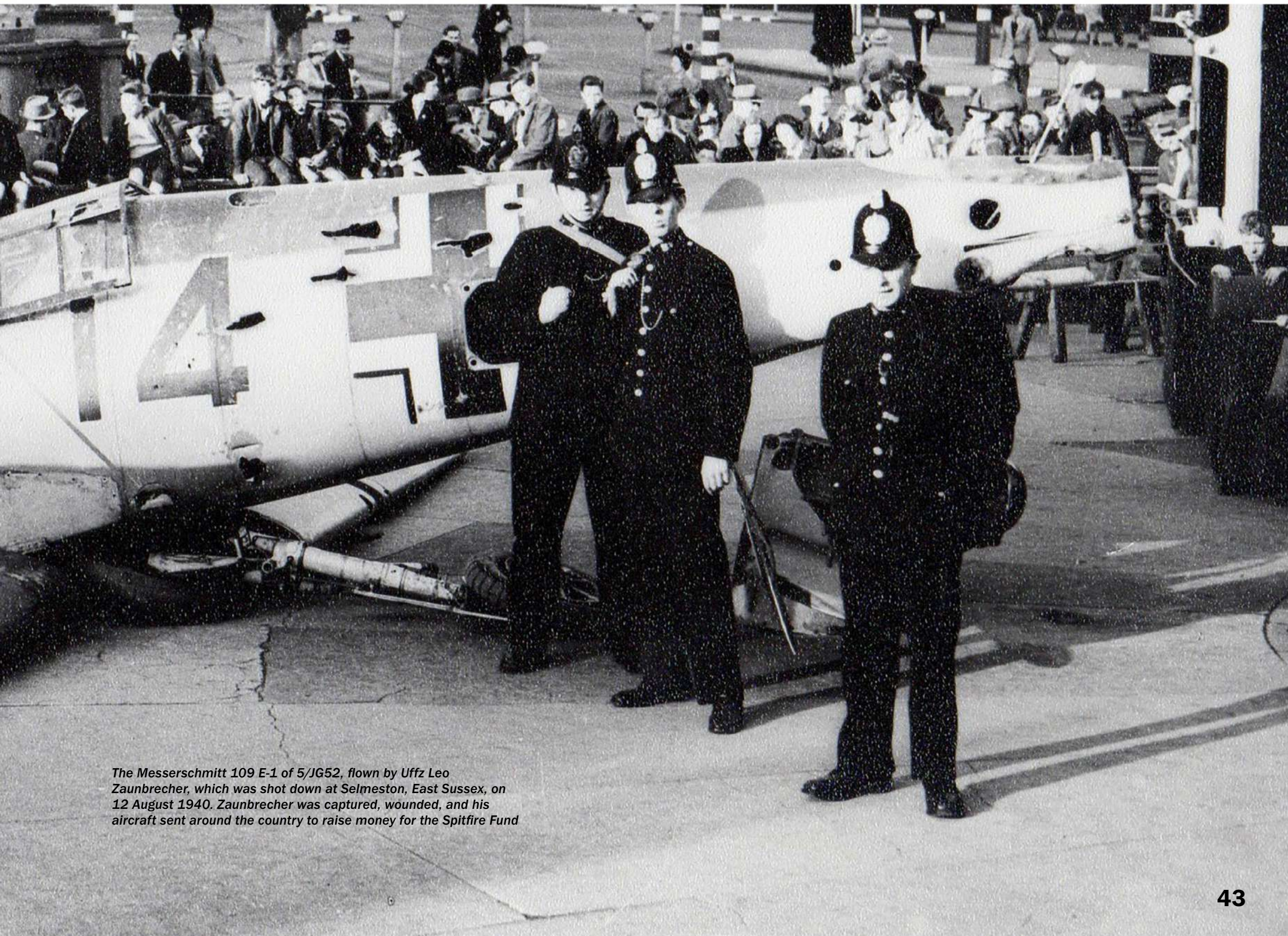
Consequently, it was only natural that a patriotic nation – its back against the proverbial wall – wanted to be part of the effort to stem the Luftwaffe tide. A scheme was hatched whereby towns, communities and businesses could come together and raise funds to buy their very own Spitfire and 'gift' it to the RAF. Mindful of the potential propaganda and morale-boosting value of such a scheme, the Government willingly supported the initiative. The Air Ministry stated the cost of a Spitfire to be £5,000, and this was the sum which each separate group needed to raise to have a Spitfire named after them. Sometimes, that name would simply be of the town or community which had raised the funds. Other times, it would be named after a company or individual making the donation. Sometimes, it was a little more esoteric. For example, one Spitfire funded by stable boys and jockeys at a famous race horse stables named 'their' Spitfire 'Blue Peter' after a winner of Britain's famous Derby horse race. Somehow, the Spitfire Fund engendered feelings of doing something positive to aid Britain's air defences.

Eager to help, and keen to showcase the RAF's prowess, it was realised that the public greatly enjoyed the sight of downed German aircraft. This became evident each time an enemy machine fell to earth when scores of sightseers flocked to view each wreck. Sometimes, enterprising landowners charged sixpence to members of the public to come onto their land for a close-up view. The money raised initially went to organisations like the Red Cross, or to service charities, but as the Spitfire Fund became established it was inevitable that collecting tins would be rattled for this popular cause at the scene of shot down enemy fighters or bombers.

"AS FAR AS THE BRITISH PUBLIC WERE CONCERNED, THE SPITFIRE SAVED THE DAY IN 1940"

Picking up on this enthusiasm, a 'travelling circus' of enemy hardware was organised to transport them around the country for display in districts where Spitfire Fund collecting was taking place. For this purpose, it was preferable that the aircraft selected for the travelling exhibition should be the easiest to transport and the easiest to erect and assemble. The Messerschmitt 109-E fitted the bill perfectly: small, compact and easy to disassemble and re-erect. Not only that, a plentiful and growing supply existed of such aeroplanes. Many of these fighters had made forced landings, having sustained little outward damage apart from bent propeller blades and bullet holes.

From photographic evidence, it is possible to deduce that at least 20 different Messerschmitt 109s were used around the country for public display. Not always was the Messerschmitt 109-E selected for these fundraising efforts, though. But it was by far the



The Messerschmitt 109 E-1 of 5/JG52, flown by Uffz Leo Zaunbrecher, which was shot down at Selmeston, East Sussex, on 12 August 1940. Zaunbrecher was captured, wounded, and his aircraft sent around the country to raise money for the Spitfire Fund

most popular machine of choice. Additionally, the type could be exhibited far outside its operating range, which only encompassed London and the very southeast corner of Britain. In this area, the Messerschmitt 109 was a familiar sight and sound on a virtually daily basis in 1940, but it was seldom seen in the air anywhere beyond that region.

A variation on the type of enemy fighter placed on public display was the intact Messerschmitt 110-D exhibited at Hendon as part of the district's Spitfire Fund efforts – the 'Hendon Four-Fighter Fund'. Here, at Hendon, contributors could purchase stamps for one penny that were stuck onto a collecting card. Once the holder of the card had filled all the spaces for stamps, they were awarded a colourful 'Stamp of Honour' as a 'thank you' in recognition of subscribing three shillings to the fund. In real terms, and according to the Air Ministry's schedule of costs for a Spitfire, a single rivet cost sixpence. Thus, in the money of the day, three shillings would have purchased six rivets for a Spitfire!

The Messerschmitt 110-D shown at Hendon had been shot down over Kent on 15 August 1940 following an attack on RAF Croydon, with its two crew from being taken POW. However, its exhibition at Hendon was far from the end of its useful life. The following year, on 5 April 1941, it arrived in the US aboard SS Montanan for evaluation by the Lockheed Aircraft Corporation. Here, at Vultee Field, a comprehensive report into the type was duly compiled.

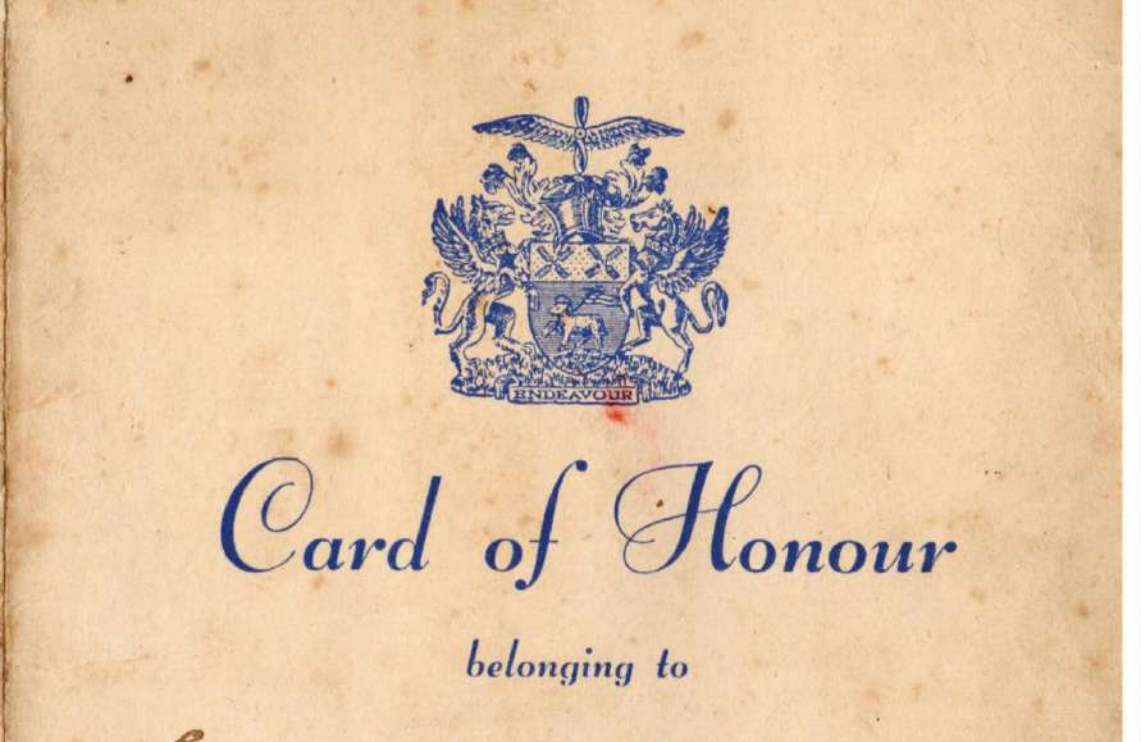
One of the very first Messerschmitt 109s to go on public display was Unteroffizier Leo Zaunbrecher's 'Red 14' of 2/JG52 which had been shot down at Selmeston, East Sussex, on 12 August. Playing right into the arms of the British propaganda machine, Zaunbrecher allegedly told his captors at the scene, "Spitfire too good!" It was a gift that could only benefit the nascent Spitfire Fund.

"THE SMELTER'S FURNACE WAS THE FATE MET BY THE MAJORITY OF SHOT DOWN MESSERSCHMITTS"

Removed from its landing site by RAF personnel, Zaunbrecher's aircraft was earmarked for public exhibition by virtue of its intact, albeit bullet-holed, state. As was the case with Red 14, any removable items were often stripped by souvenir hunters, and various panels and wing fillets etc were frequently discarded by removal and erection crews to save time in their task. Fitting and re-fitting wing-joint fillet panels, for example, was not worth the effort. Not only that, but these aeroplanes were frequently kitted out with cowlings, wings etc from different Messerschmitt 109s. On at least one occasion, Red 14 was displayed with its wings back to front! To the public, it didn't matter. They still came, and they still paid their money.

Money raised came from an entrance fee to get into an enclosure to view the Messerschmitt 'up close and personal'. Sometimes, a premium price was charged for an opportunity to sit in the cockpit. Other times, with the fighter displayed in a public area, viewers were simply encouraged to fill collecting tins. On yet other occasions, it was possible to buy small souvenirs of the wrecked aircraft for a few pennies.

By the time it got back to the RAF salvage depot (No. 49 Maintenance Unit near Horsham in West Sussex) Red 14 had seen better days. It had been taken on a tour of displays to Cardiff, Birmingham, Manchester, Leeds and Glasgow. During an overnight stop at Lydney in the Forest of Dean, enterprising souvenir hunters had almost managed to completely cut the distinctive red-devil emblem from the cowling. Certainly, the acquisition of a colourful Luftwaffe unit emblem would have been regarded as the ultimate trophy. In Manchester, however, a young boy did have some luck collecting a souvenir of Red 14



Card of Honour

belonging to

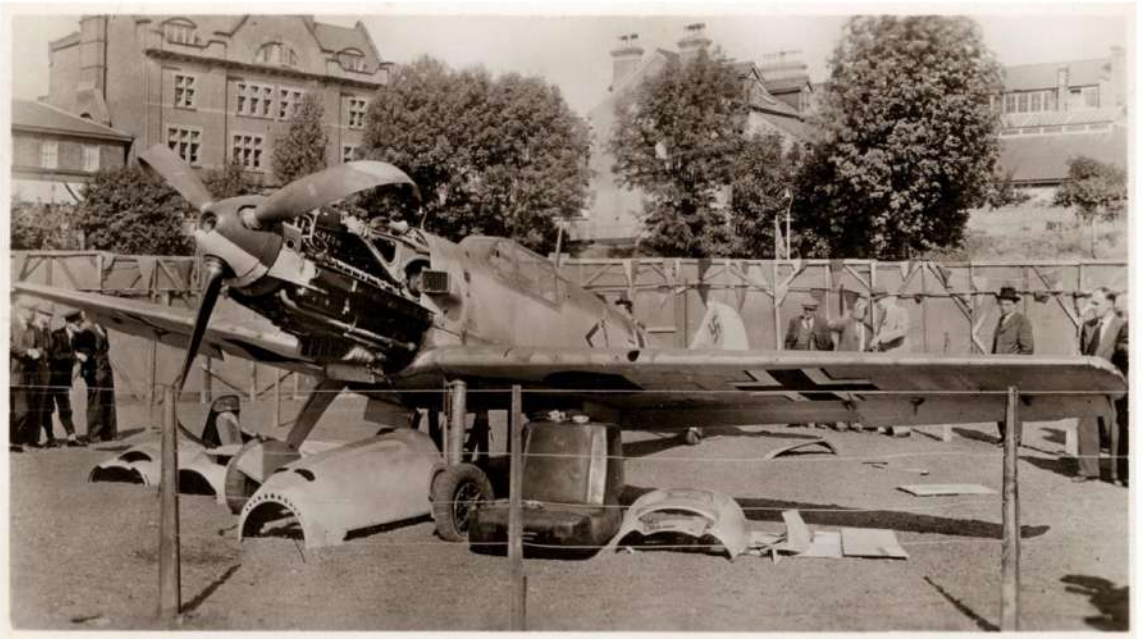
Edward F Cook

67 The Greenway Colindale

N.W.9.

Each Stamp on this Card is another Rivet in one of the Four Fighter Aircraft that will make air-fighting history against an enemy that menaces civilisation.

In years to come, when Peace has followed Victory, you will be able to show this Card of Honour to your children's children . . . you will remember how your effort of to-day supported the amazing performance of our steel-nerved Fighter Crews who, in 1940, are our gallant representatives in aerial combat.



"MADE IN GERMANY — FINISHED IN ENGLAND."
MESSERSCHMITT M.E.109.
ALL PROCEEDS GO TO OUR LOCAL SPITFIRE FUND.
C.T. Photo.

when it was displayed there. Giving the night sentries the slip, the 12 year old snuck behind the barricades and removed a compressed air bottle from through the wheel well.

Venues for displaying this travelling 'circus' of Messerschmitts were as widely varied as the locations, with public parks and squares being popular sites, along with parking lots and automobile showrooms. With war in full swing, private automobiles had been laid-up for the duration and sales had ceased. In any event, petrol was severely rationed since its priority user was now the military. As a consequence, empty parking lots and showrooms became regular Messerschmitt 109 viewing spots. Sometimes, wrecks were displayed close to the location where they had crashed. A case in point was the Messerschmitt 109-E which crashed into Poole Harbour, Dorset, on 13 August 1940 after its pilot was shot down and he bailed-out.

Hauled from the harbour, the wreck of Uffz. W Hohenseldt's aircraft of 3/JG53 was displayed locally in Poole's Alder Road Sports Ground. Here, it could be viewed for a bargain three pence a time. Visitors were also able to buy handkerchiefs made from the pilot's parachute, with proceeds raised going to the Poole Spitfire Fund. Unfortunately, the record does not tell us how much was raised from this enterprise.

As to the rest of this unusual display 'circus', Messerschmitt 109s were not only displayed far and wide throughout Britain, but a number were sent overseas for recruitment, propaganda and fundraising purposes. Indeed, the Spitfire Fund in 1940 had begun to spread far beyond Britain's shores and the most famous of these 'exports' was Uffz. Horst Perez's 'White 4' of 4/JG 26 (Werke Nummer 1190), shot down at East Dean, Sussex, on 30 September 1940. The machine was sent first to Canada and toured that country and the US for fund raising efforts. Ultimately, it returned to Canada where it was rescued from a scrap yard by enthusiasts in the 1960s and returned to the UK. Restored, it is now at the Imperial War Museum, Duxford – the only survivor of the Messerschmitt 109s selected in 1940 for public exhibition that is still being viewed by the public in Britain.

At around the same time, the Messerschmitt 109 which had been force landed by Fw. Xavier Ray (yes, his name really was X Ray!) at Lower Hardres, Kent, in 1940 was sent to India for exhibition. Recently, this aircraft was found dumped in the backyard of a technical school in India and has now been shipped back to the UK for restoration to flight.

South Africa, too, received an example – this time 2/JG 26's 'Red 2' flown by Uffz. Heinz Wolf and his aeroplane survives in the Saxonwold Museum. The dispersal for exhibition of shot down Messerschmitts was certainly not just national but spread far beyond Britain's own borders.

As for Leo Zaunbrecher's Red 14, the aircraft was ultimately dispatched to be turned into smelted alloy ingots once its fundraising days were done, with the smelter's product feeding into aircraft production. Indeed, the smelter's furnace was the fate met by the majority of shot down Messerschmitts – whether they were in the display 'circus' or not.

Very often, as with Oblt Bartels's III/JG 26 Messerschmitt 109-E (shot down at Northdown, Kent, on 24 July 1940), and later displayed at Croydon that August, enemy aircraft were exhibited with a sign saying 'Made in Germany, finished in England!' – a sentiment which appealed to the British mood of the time.

By the end of fundraising efforts for the Spitfire later in the war, no less than 1,500 'presentation' Spitfires had been gifted to the RAF. To some extent, the Messerschmitts they downed had contributed too!

***Above, top:** A Heinkel 111, shot down at Hildenborough, Kent, on 11 September 1940, promoting a Spitfire Fund*

***Above:** A souvenir postcard with a Messerschmitt 109 E-1, flown by Ltn Werner Bartels, shot down at Margate*

***Left:** The collecting card for the 'Hendon Four Fighter Fund' raising money to buy Spitfires*

***Far left:** RAF airmen pose with an emblem that adorned the engine cowling of Leo Zaunbrecher's Messerschmitt 109*

All images: Andy Saunders

WAR THUNDER

This mass-multiplayer video game puts you in the cockpit and the driving seat of thousands of vehicles, pitting your skills against a global online community of millions of players

War Thunder is one of the largest free-to-play, online military games in the world, offering players the chance to fly, and fight, in some of history's most iconic vehicles. With over 1,700 vehicles to choose, ranging from Second World War to Cold War eras, there are also 80 unique environments to explore, replicating real-world battlefields from across the theatres of military history.

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Challenge yourself with real-world difficulty levels to test your piloting skills in thrilling dogfights and other historical scenarios.

Q&A WITH Vyacheslav Bulannikov (Producer), Gaijin Entertainment

How did you achieve the accuracy of the aircraft designs?
The *War Thunder* team extensively studies publicly available photos and documents, such as manuals, research papers, field testing reports. Most famous planes are available in the museums all over the world and we send special research teams to record the tiniest details. Sometimes the users uncover rare historical documents or photos and we are eager to follow up their lead. We also talk to pilots that actually flew those aircraft to make sure that the visuals and the flight models are as accurate as possible. Some of those pilots test the in-game version and give feedback that the developers use to improve the game even further.

Do you have any favourite in-game scenarios and/or maps?
Honestly, I cannot name any specific maps that the team likes. I think that all the maps designed for combined battles (air and ground or air and naval forces) are the most interesting, but some people like air to air combat only. On the other hand, some maps might have sentimental value to the players: for example, it's just cool to fly over Alaska or Korea exploring the landscape that might be familiar to those players who actually live there.

How have you made the combat so realistic?
The *War Thunder* team decided from the very start that the vehicles in our game should look, feel and perform exactly as their real life counterparts. We are especially proud of our damage model. Unlike other games, *War Thunder* does not use fictional 'life bar' to represent the level of damage taken by a vehicle. Shells or bullets damage the specific components of a plane and after that those exact components simply stop functioning. So *War Thunder* players should know where exactly to shoot when confronting various types of enemy planes to decrease their performance or destroy them in the most efficient way.

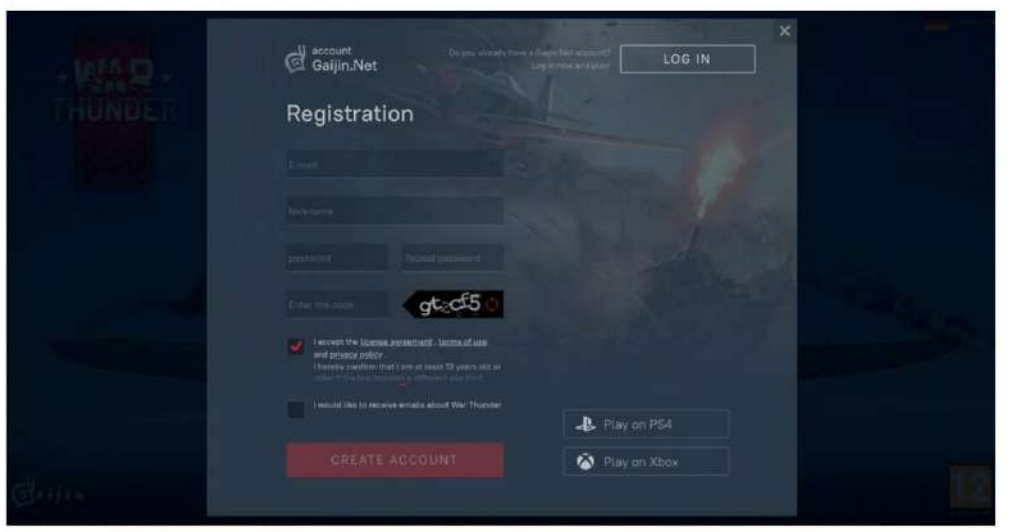
There are three key segments of military simulation game fans and *War Thunder* introduced three different difficulty levels for them. Arcade mode makes the game easier to play and understand: for example, enemy and allied planes on the battlefield are clearly marked to make sure you know who is who. Simulation mode is made for hardcore fans and gives a player only the information that would be available to a real pilot. Realistic mode is something in between. All three modes use the same visuals and the same damage model, so even the Arcade players get the full *War Thunder* experience.

Finally, *War Thunder* is a game where aircraft pilots fight not only against other pilots, but also against ground or naval forces controlled by other players – just like in real life.

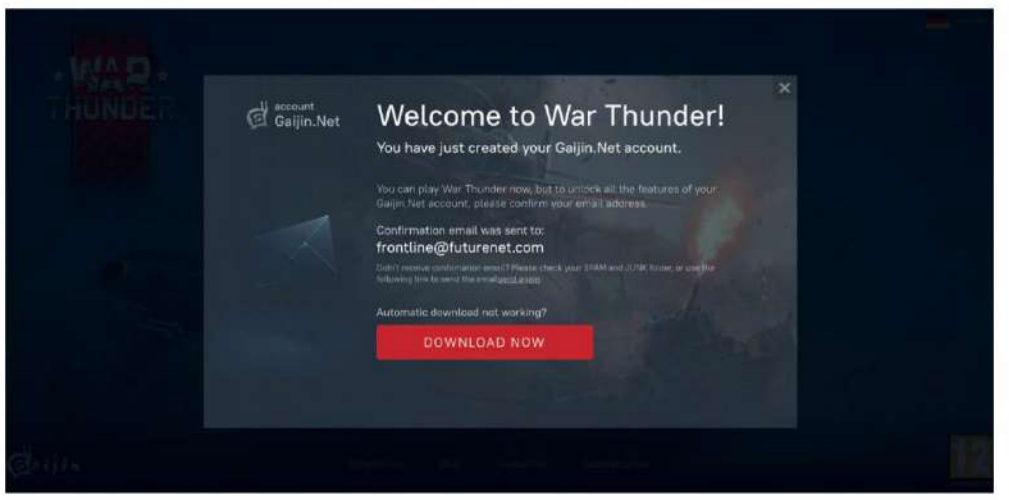
Do you have any tips for new players?
We recommend you to try different kinds of starting level military vehicles from various nations to understand the roles of those machines on the battlefield and find a role you really enjoy. After that it's time to progress through the chosen technological tree simply by playing and winning. It's important to understand that there is no need to rush to top tier jets, each technological era is interesting and provides a lot of fun.

HOW TO GET AIRBORNE Follow these steps to get into the game

1. GO TO WARTHUNDER.COM
To begin visit warthunder.com on your internet browser. You can play *War Thunder* on PC, PS4 or Xbox, but for this guide we'll be using PC.



2. CREATE YOUR ACCOUNT
Next you will be asked to create an account, including your in-game nickname. Fill in the necessary information and click 'Create Account'



3. DOWNLOAD
You will next be able to either download the install file to your computer, or activate the download on-screen. Once the download is complete, open the file and the install window should begin automatically.

4. VISIT GAIJIN.NET STORE
You can find a host of vehicle packs available for purchase at store.gaijin.net, giving you instant access to your favourite aircraft or armour to take to your online games.

VISIT WARTHUNDER.COM TO START PLAYING FOR FREE TODAY

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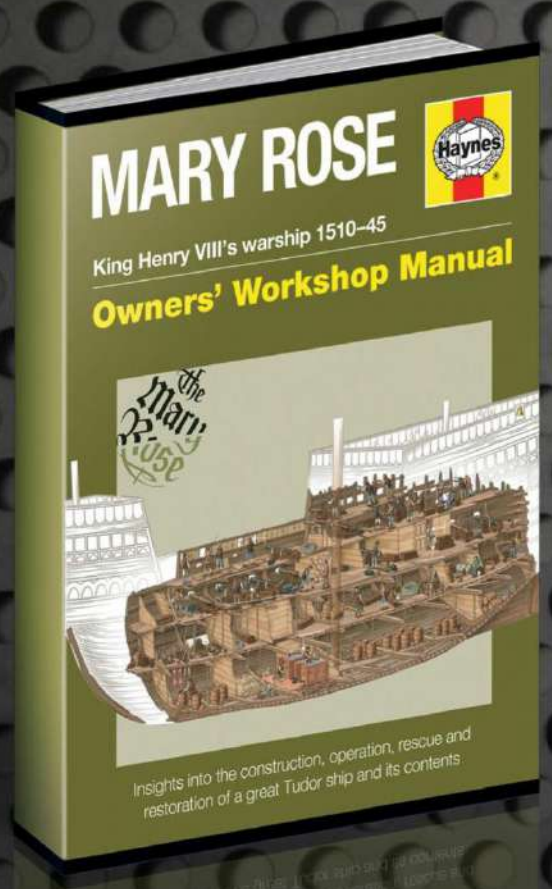
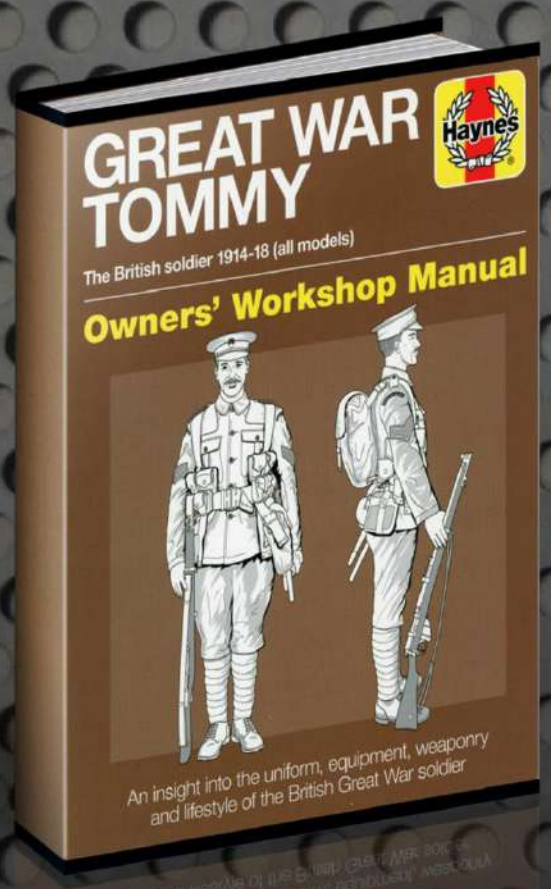


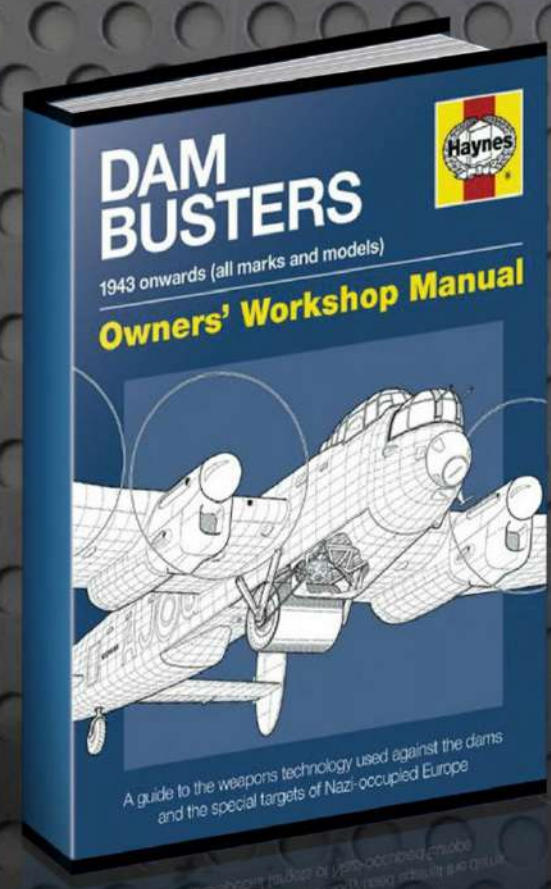
MARY ROSE

Insights into the construction, operation, rescue and restoration of a great Tudor ship and its contents. From the time that King Henry VIII's warship Mary Rose was raised from the Solent in 1982 after 437 years on the seabed, to the present day.



GREAT WAR TOMMY

There is an abiding fascination in the uniform and equipment of the British Great War soldier. What was it like to wear? What were puttees? These and other typical questions will be answered in Haynes Manual style.



DAM BUSTERS

Using the Haynes Manual approach, Iain Murray describes the technology behind the bouncing bomb as well as the heavily modified Lancasters that were used to deliver the weapons.

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OPPOSING FORCES

MACEDON

LEADER
Alexander the Great

INFANTRY
32,000

CAVALRY
5,100

VS

ACHAEMENID PERSIA

LEADER
Darius III

INFANTRY
250,000

CAVALRY
58,000

Source: Wiki / PD - Art / CC

BATTLE OF ISSUS

Alexander the Great and his Macedonian army invade Persia, despite being heavily outnumbered, to face off against King Darius's superior force

WORDS: **MURRAY DAHM**

The battle as interpreted by 15th century painter Albrecht Altdorfer

At the battle of Issus, in early November 333 BCE, Alexander faced the Persian King Darius in person for the first time. Massively outnumbered, the Macedonian army faced the numberless might of the Persian military machine. The outcome would decide the future of both the Persian and the Macedonian empire.

Alexander the Great invaded the Persian Empire in spring 334 BCE, crossing the Hellespont in fulfilment of the military ambitions of his father, Philip. Philip had been assassinated in 336 and Alexander wasted no time in using the army his father had developed to ensure that Greece and Thrace were subdued before embarking on the most aggressive military campaign the world had ever seen.

Within a month of his invasion, Alexander had faced and defeated a Persian army at the battle of the Granicus in what is now north western Turkey. At the Granicus he had faced an army commanded by Persian governors (satraps) and other nobles and cobbled together out of their own troops. The victory opened the way for Alexander to march deeper into the Persian Empire but he had yet to face the full force of the Persian army itself or the Great King, Darius, himself. Alexander marched down the coast of modern-day Turkey, taking and besieging cities. In early 333 he marched into Galatia, Cappadocia, and Cilicia. There he received word that Darius was on the move to meet him.

Darius realised that he needed to face Alexander himself since the loss at Granicus meant, not only, that he had lost several commanders, but cities and territories were surrendering to Alexander without a fight. Darius mustered his enormous army and

marched to Sochi – the exact location is still debated, but it was somewhere in north western Syria. This gathering of his forces took some time, and it was more than a year before his army was gathered. Nonetheless, Darius stole a march on Alexander who continued to advance southwards down the coast before learning that Darius was behind him, having marched undetected from Sochi to Issus through the Amanus mountains. Alexander turned about and marched northwards.

We are told that Darius's army numbered up to 600,000 men, summoned from across the empire. In addition to men from the Persian homelands and Media, there were contingents from Armenia, Hyrcania, and other parts of the empire, and 30,000 Greek mercenaries. Most modern estimates reject this vast horde (bringing the total down to around 100,000 men) but, whatever the actual number, Darius's army severely outnumbered Alexander's forces (a maximum of 40,000 men). The breakdown of numbers at Issus provided follows Curtius Rufus' account (3.2.3-9) – 250,000 infantry and 58,000 cavalry. Darius's first choice of position at Sochi gave room for the deployment and manoeuvre of his entire force but he was persuaded to advance to a narrower position at Issus and then the Pinarus river. The plain here may still have been four kilometres wide but it was not enough room to fit Darius's army and he was forced to station a huge reserve of troops behind his front line. He must still have got the jump on Alexander since his men had time to erect palisades and secure their position on the northern river bank.

The mainstay of the Persian army was levies of troops armed with spear and bow. There were also a variety of contingents who were armed according to their own traditions and fought with other weapons such as axes. The Persians had shields and some armour although they were less well protected than their Macedonian opposition. As a result of this, Darius had a large number of Greek hoplite mercenaries (30,000 according to Arrian). These were better armed and armoured than traditional Persian troops and Darius even had Persian troops equipped and trained as hoplites (known as cardaces).

The backbone of the Macedonian army was the phalanx of 9,000 men recruited from the provinces of Macedonia. These were divided into six divisions or taxeis (sing. taxis) of 1,500 men each. Each man was armed with a long spear,

Jan Brueghel the Elder's The Battle Of Issus, which hangs in the Louvre

Source: Wiki / PD - Art / CC

5 NOVEMBER 333 BCE

How the Persians were routed by Alexander's mighty forces in southern Anatolia

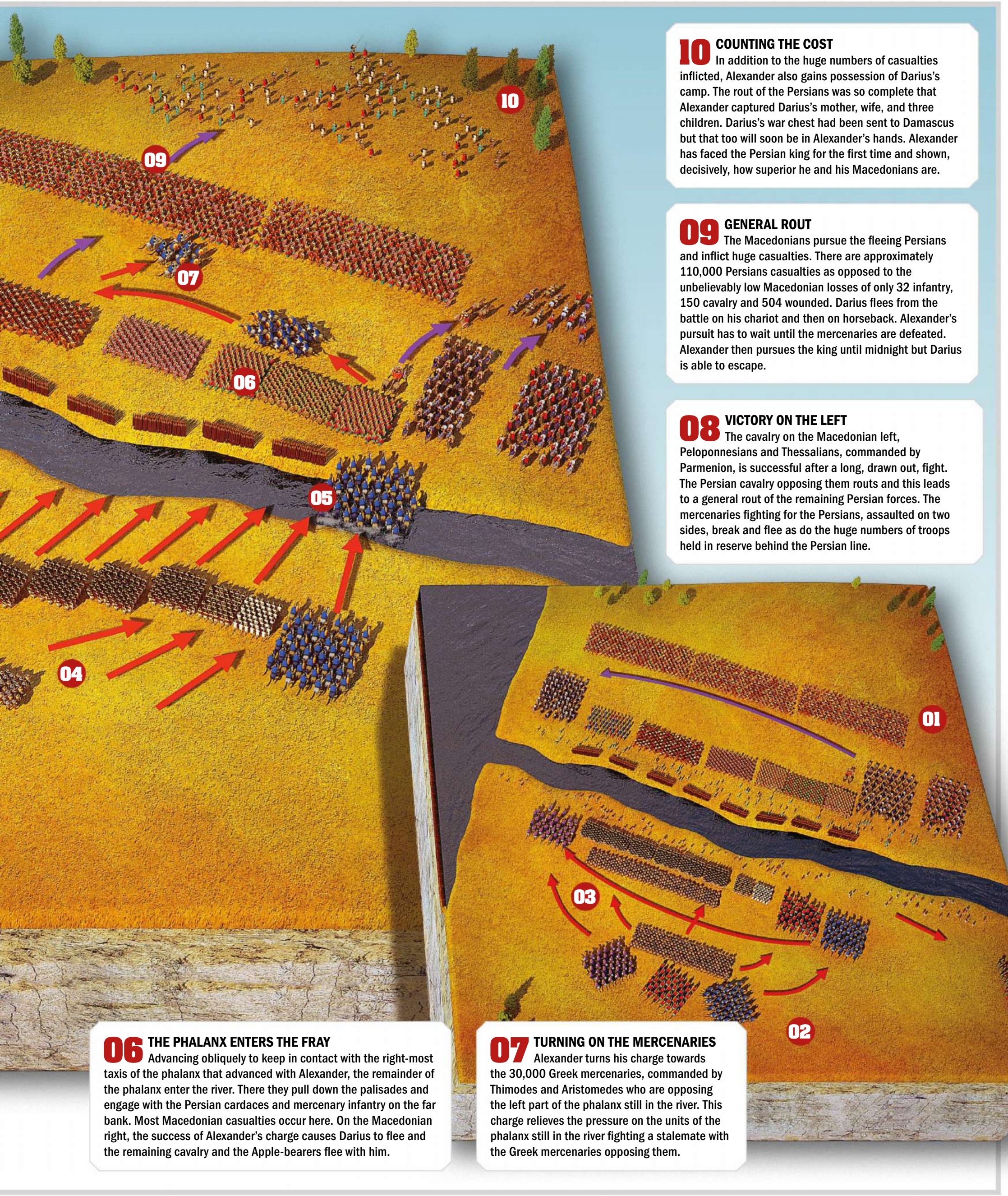
01 DARIUS TAKES UP POSITION
Having marched behind Alexander's route, Darius positions his army on the northern bank of the Pinarus River. There he erects palisades and takes advantage of the terrain to oppose Alexander's advance.

02 ALEXANDER ADVANCES
Alexander receives word of Darius arriving to his rear so he turns about and advances northwards. The approach to the battlefield is very narrow and only allows Alexander to advance with his army in double depth. As they advance towards the Persians, the plain widens allowing the Macedonian army to spread out, the phalanx thinning to its usual depth and the cavalry and other troops being deployed to each wing.

03 BATTLE BEGINS
A small Persian force occupies a hill on the southern bank of the river, threatening Alexander's flank. Alexander sends a force of light armed troops and archers who dislodge these troops securing his right flank. Darius reinforces his right wing with cavalry from the left. Observing this, Alexander sends his own Thessalian cavalry to the left wing.

04 INTO THE STORM
On the Persian right wing, the cavalry charges across the river and engages the cavalry of the Macedonian left. Alexander continues his advance and comes within Persian arrow and missile range. The Persians begin to rain down missiles on the advancing phalanx. The Macedonians approach the river and palisades of the Persians.

05 ALEXANDER CHARGES
Taking his Companion cavalry, the Royal Guard, the hypaspists and a single taxis of the phalanx, Alexander charges into the river. His attack drives the Persians from the far bank.



10 COUNTING THE COST
In addition to the huge numbers of casualties inflicted, Alexander also gains possession of Darius's camp. The rout of the Persians was so complete that Alexander captured Darius's mother, wife, and three children. Darius's war chest had been sent to Damascus but that too will soon be in Alexander's hands. Alexander has faced the Persian king for the first time and shown, decisively, how superior he and his Macedonians are.

09 GENERAL ROUT
The Macedonians pursue the fleeing Persians and inflict huge casualties. There are approximately 110,000 Persians casualties as opposed to the unbelievably low Macedonian losses of only 32 infantry, 150 cavalry and 504 wounded. Darius flees from the battle on his chariot and then on horseback. Alexander's pursuit has to wait until the mercenaries are defeated. Alexander then pursues the king until midnight but Darius is able to escape.

08 VICTORY ON THE LEFT
The cavalry on the Macedonian left, Peloponnesians and Thessalians, commanded by Parmenion, is successful after a long, drawn out, fight. The Persian cavalry opposing them routs and this leads to a general rout of the remaining Persian forces. The mercenaries fighting for the Persians, assaulted on two sides, break and flee as do the huge numbers of troops held in reserve behind the Persian line.

06 THE PHALANX ENTERS THE FRAY
Advancing obliquely to keep in contact with the right-most taxis of the phalanx that advanced with Alexander, the remainder of the phalanx enter the river. There they pull down the palisades and engage with the Persian cardaces and mercenary infantry on the far bank. Most Macedonian casualties occur here. On the Macedonian right, the success of Alexander's charge causes Darius to flee and the remaining cavalry and the Apple-bearers flee with him.

07 TURNING ON THE MERCENARIES
Alexander turns his charge towards the 30,000 Greek mercenaries, commanded by Thimodes and Aristomedes who are opposing the left part of the phalanx still in the river. This charge relieves the pressure on the units of the phalanx still in the river fighting a stalemate with the Greek mercenaries opposing them.

The Alexander Mosaic depicts Alexander charging against Darius at the battle of Issus based on a painting by Philoxenus

a sarissa, five and a half metres long. He also wore armour, a shield and carried a sword. In addition to this Alexander had a corps of heavy cavalry, the Companions, armed with a spear of their own, the xyston. Alexander led the cavalry in person on decisive charges. There was also a unit of 3,000 hypaspists or Foot Guards which protected the flanks of the phalanx. To augment these, Alexander's army had a variety of other troops, light armed peltasts, archers, various mercenaries and other types of cavalry.

At Issus, Alexander would march northwards straight into battle. We are told that he entered the plain approaching Darius's position at a very narrow part, where he had to deploy his phalanx in double depth (32 men deep rather than the usual 16) and with his cavalry behind them. As he advanced towards Darius he was able to extend his line, making the phalanx its normal depth and placing his cavalry on each wing. On the right he had his Thessalian and Macedonian cavalry, next to them his Royal Guard cavalry and hypaspists. Then came the phalanx, in six taxeis. Next to them on the left wing were the Peloponnesian cavalry. Behind these he had a line consisting of his mercenaries (probably to fill any gaps created in his line and to replace any losses). In front of his whole formation he placed a screen of skirmishers and archers. These advanced towards the Persians.

There is some confusion in our sources, not only to the number of men involved but also in how they were deployed. It is most likely, however, that Darius himself was on the left of the Persian line with his cavalry and the infantry from Persia and Media. Arrian, usually our most reliable source, places him in the centre of the Persian line but there are sound reasons to reject this. Next to these were more Persian infantry, possibly the cardaces armed in the manner of Greek hoplites. Then came the Greek mercenary hoplites followed by the Persian right wing of cavalry with a contingent of archers and slingers. In front of the Persian line was a screen of javelin-men and slingers. Darius also deployed a force on a hill on the southern bank of the river which would threaten the Macedonian right flank.

As Alexander continued to advance, he sent his screening force of light-armed troops to dislodge the force threatening his right flank. This was achieved without much fuss even though Arrian tells us that the flanking force consisted of 20,000 men. Darius reinforced his own right wing with a cavalry contingent from his left (probably the Median cavalry). Seeing this, Alexander strengthened his own left wing by sending the Thessalians from the Macedonian right wing to reinforce his commander there, Parmenion.

"IT IS TESTAMENT TO THE VAST RESOURCES OF THE PERSIAN EMPIRE THAT DARIUS WAS ABLE TO RECOUP HIS LOSSES AND BUILD AN EVEN BIGGER ARMY TO FACE ALEXANDER AGAIN AT GAUGAMELA IN 331"

The exact sequence of events after this becomes slightly unclear and our sources disagree. It is possible that things happened simultaneously although there is reason to accept the following reconstruction. The reinforced right wing of the Persian cavalry charged across the river engaging the cavalry of the Macedonian left wing. The remainder of the Persian army did not move from their prepared positions but as soon as the Macedonian army came within range, they unleashed a hail of different missiles upon them. Perhaps at the same time as the charge into the Macedonian left, Alexander launched a charge of his own on the right, crossing the river. Here we are let down by our sources. Arrian tells us that Alexander charged straight at Darius who he has positioned in the middle of his army behind the Greek mercenaries. This won't work since it is unlikely that Darius would position himself behind Greek mercenaries and not his own elite troops, the Apple-bearers. It also makes Alexander's charge difficult to understand, straight into heavy hoplite infantry in the centre of the battlefield. Curtius's positioning of Darius

Source: Wiki / PD - Art / CC

Source: Wiki / PD - Art / CC

Paolo Veronese's 16th century painting illustrates Alexander meeting Darius's family after the Battle of Issus

on the left wing of the Persian formation solves most issues, however. Alexander seems to have charged straight at Darius – having the Persian king on the left makes this more explicable, especially if moving cavalry to the Persian right wing created a gap or disruption in the Persian formation close to Darius's position. Taking his Companion cavalry, the Royal Guard, the hypaspists and the right-most taxis of the phalanx, Alexander charged into the river. This combined force of infantry and cavalry dislodged the troops opposing them. In order not to lose contact with the right-most taxis of the phalanx, however, the other taxeis of the phalanx will have been forced to advance obliquely into the river. There they engaged with the Persian infantry and the Greek mercenaries opposite them. The mercenaries were regarded by Arrian as Darius's best troops and the equal of the phalanx. This is the reason Arrian wanted Darius in the middle of his line, behind (what Arrian considered) his best troops. Arrian also wanted Alexander to defeat the mercenaries with his initial cavalry charge. Alexander did defeat the Greek mercenaries but in a different manner.

The cavalry fight on the Macedonian left was hard-fought and the phalanx versus mercenary infantry battle in the river was a stalemate. The battle would be decided on the Macedonian right where Alexander's charge pushed the enemy from the river bank. We do not know how hard the fighting there was but at some point, Darius fled from the battle in his chariot. Arrian has this occur almost as soon as Alexander charged. When Darius fled, his troops, especially his elite Apple-bearers, went with him. Alexander then turned his attention to charge the rear and flank of the Greek mercenaries who were pressuring his phalanx in the river. If Alexander's initial charge had been through the mercenaries this would have been impossible. Attacked on two sides the mercenaries too, fled. On the Macedonian left, Parmenion finally got the upper hand and sent the Persian cavalry from the field. The Persian reserve had not fought but they also took to their heels. All of these events may have happened close together and possibly as soon as Darius broke and fled. For this reason, it seems likely that Darius put up a fight for some time.

A general rout of the Persian army followed Darius's flight. We are told Darius fled until nightfall or midnight, first in his chariot and then on horseback. He was pursued by Alexander but had too much of a head start. He had lost 110,000 casualties as well as his camp. There, Darius's wife, mother and three of his children had awaited the outcome of the battle but so thorough was his defeat that there was no time to evacuate them. Alexander took all of them captive. The Persian war chest had been sent to Damascus but it too would fall into Alexander's hands. It is testament to the vast resources of the Persian Empire that Darius was able to recoup his losses and build an even bigger army (one million men according to some sources) to face Alexander again at Gaugamela in 331.

On the Macedonian side we are told of remarkably low (suspiciously so) casualty numbers. One source has only 504 wounded, 32 infantry deaths and 150 cavalry deaths. Another adjusts this up to 130 infantry deaths. We may be sceptical (and editors will be found adding zeros to make the numbers of Macedonian losses higher), but the losses in all of Alexander's battles are disproportionately low. The Persians were less well armoured than the Macedonians which may explain this discrepancy in part, as might the fact that many of the casualties occurred when the Persians broke and fled.

Rather than provide the showdown between Darius and Alexander, Darius's escape at Issus allowed him to live to fight another day. For Alexander, however, it reinforced the superiority of his troops and his leadership over Darius and the Persians. Darius's defeat also sent a clear message to the Persian Empire that they needed to take Alexander seriously. Several cities, whole provinces in some cases, welcomed Alexander with open arms as a liberator. Others, like the city of Tyre, put up a stout resistance. Alexander followed Issus, not by pursuing Darius to Babylon, but by continuing down the coast of the Levant and on into Egypt. Having secured the empire behind him, he returned to advance on Babylon (and face Darius again) in 331, at the battle of Gaugamela where the fate of the Persian Empire would be decided once and for all.

Heroes of the Medal of Honor

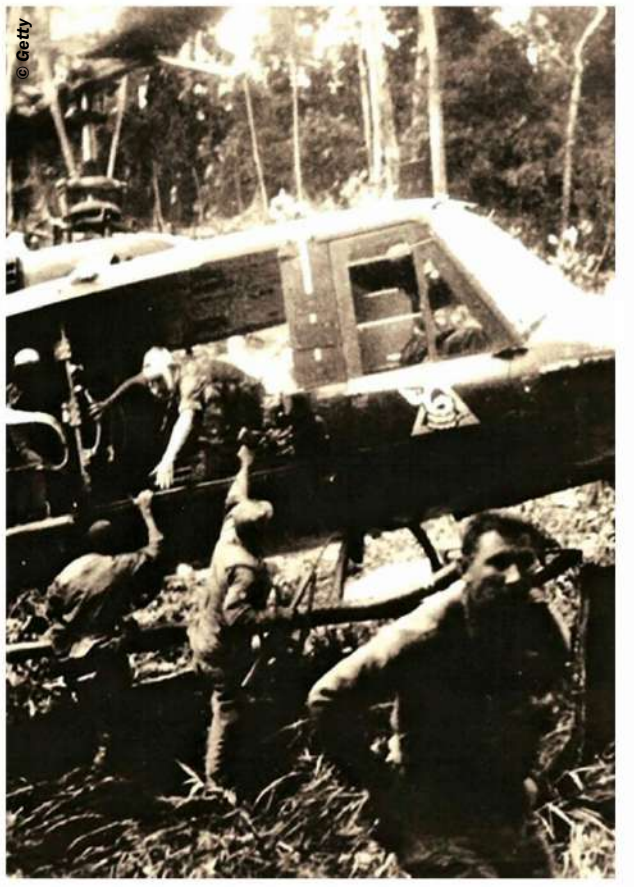
BRUCE P. CRANDALL

During the first major pitched battle between American and Vietnamese forces, this helicopter pilot found himself in the firing line as he ferried casualties to safety

WORDS: **TIMOTHY WILLIAMSON**

Thick smoke chokes the horizon, rising from the sea of green jungle speeding past below. Explosions flash up again and again as ordinance shells pummel the landscape, heralding the arrival of the US forces. Leading his squadron of unarmed Huey aircraft towards the target of the artillery, the area surrounding landing zone (LZ) X-Ray, Major Bruce Crandall gives the order to drop altitude to just above the treetops as they draw closer to their destination. The passengers of the Hueys, clinging on for dear life as they skim across the surface of the forest, are the men of the 1st Battalion, 7th Cavalry Regiment (1/7 CAV). They are here to pick a fight, to confront the enemy on their own doorstep. Though they know this won't be easy, neither they, Major Crandall, nor the operation's commanding officer Lt Col Harold Moore know just what horrors await them in the Ia Drang Valley.

Known by his call sign 'Ancient Serpent 6', or simply 'Snake', Major Crandall was already a respected leader, as well as a formidable pilot


© Getty

by the outbreak of the Vietnam War. He was also at ease in fixed-wing aircraft, as well as helicopters. During the Battle of Ia Drang, he was forced to call upon all his experience and skill to keep his fellow Americans alive.

At 10.35am on 14 November 1965, Major Crandall was leading the first wave of eight Hueys airlifting 1/7 CAV into LZ X-Ray. A simultaneous barrage of artillery, intended to clear the LZ of enemy presence, was still raining down on the target ahead of the Hueys as the pilots reduced their altitude to land. The attack had been coordinated so that the artillery ceased just a minute before the airlift arrived, minimising any chance of PAVN troops recovering and taking the area. It would be the first organised offensive by American forces since their entry into the Vietnamese conflict.

The enemy, 1/7 CAV's target, is the People's Army of Vietnam (PAVN), who are in familiar terrain, safe in the bosom of the

***Left:** Bruce Crandall flies a rescue mission in Vietnam with fellow Medal of Honor Recipient Ed Freeman*

“THERE WAS NEVER A CONSIDERATION THAT WE WOULD NOT GO INTO THOSE LANDING ZONES. THEY WERE MY PEOPLE DOWN THERE, AND THEY TRUSTED IN ME TO COME AND GET THEM”

Lt Col Bruce Crandall, at his Medal of Honor ceremony

Bruce P. Crandall pictured in 1965

Source: Wiki / PD - Gov / CC

Crandall's squadron of helicopters about to take off, circa 1966

Source: Wiki / PD - Gov / CC

Chu Pong Massif mountain range and the thick expanse of jungle. Just like the men of 1/7 CAV, they were keen to fight. The North Vietnamese commanders, hearing of the Americans' aggressive deployment, were eager to test their enemy's strength on the battlefield and overcome the latest American tactic: the aerial assault. Major Crandall had been practising and developing this very method of combat with the 11th Air Assault Division, utilising quick deployment and evacuation of troops in and around battlefields. At Ia Drang, the major put his methods to the test in one of the most extreme combat environments.

1/7 CAV land

After the 13-minute flight from the US base at Plei Me, Crandall's air convoy set down B Company in the clearing of LZ X-Ray. Lt Col Harold Moore was the first to disembark and ordered B Company to perform a sweep of the area. The soldiers found themselves within an already chaotic scene, with fires from the US ordnance still blazing and smoke lying thick in the air. Because of the clearing's small size, only eight Hueys were able to land at a time, with room for only six men in each helicopter. This meant the men of B Company had to sit tight in the LZ, under the shadow of the looming Chu Pong Massif, before the rest of the battalion would arrive. After the last GI exited his Huey, Crandall's squadron took to the air again, returning to base to collect the next batch of 1/7 CAV.

Though intelligence had estimated some 250 or so PAVN troops were operating in the area close to LZ X-Ray, in reality a number close to seven times that were now stalking through the jungle toward the Americans. As Major Crandall returned with more troops from the Plei Me base some 30 minutes later, the battle had already begun, with the ground forces heavily engaged in firefights. With each return trip that Crandall made, the fighting seemed to grow in intensity, with more and more of the surrounding forest crackling with machine-gun fire, mixing with the rhythmic thudding of the helicopters' blades.

"MAJOR CRANDALL'S DARING ACTS OF BRAVERY AND COURAGE IN THE FACE OF AN OVERWHELMING AND DETERMINED ENEMY ARE IN KEEPING WITH THE HIGHEST TRADITIONS OF THE MILITARY SERVICE"

Official Medal of Honor Citation

Air evacuation

As Crandall's Hueys continued to ferry the men of 1/7 CAV to the LZ, an unarmed enemy soldier was captured and revealed that there were up to 1,600 PAVN troops in the area – eight times the number of Americans holding

Bruce Crandall's Huey helicopter in action in Vietnam

Source: Wiki / PD - Gov / CC

LZ X-Ray. Soon the PAVN troops sought to overrun the Americans holding the edges of the clearing. During the fourth drop at the LZ, the Hueys themselves came under fire, and bullets began to ricochet off the vehicles. The unarmed Hueys made tempting targets for the Vietnamese fighters, who also fired RPGs to take them out. After seeing the fifth drop take heavy fire, Lt Col Moore ordered the next group of eight Hueys to abort their mission, such was the intensity of the enemy assault. If one of the transports were to go down, it would have been a huge blow not just to the battalion's strength but also to the men's morale

Lifting away from the battlefield once more, Crandall's aircraft came under fire but wasn't badly damaged. He realised that with the intense fire the infantry were being forced to keep up, ammunition and supplies would quickly begin to run dry, leaving the battalion defenceless against overwhelming odds. Determined to act as a lifeline to the men of 1/7 CAV, he set his own mission to resupply and support the ongoing fight in the Ia Drang Valley, continually placing himself right in the sights of enemy fire.

Rearming the troops

On his return flight, he diverted to the artillery firebase Falcon, from where the first shots of the day's fighting had begun, to get to and from the battle quicker. Gathering volunteers to accompany him back to the fighting, including Captain Ed Freeman, he loaded up ammunition and returned to X-Ray. With the death toll mounting and scores of wounded in desperate need of evacuation, Crandall and his two volunteers landed their Hueys while under fire, delivering the resupply of ammunition and airlifting out as many wounded as they could.

On one trip into the LZ, three men in Crandall's Huey were shot and killed during the landing, but the pilot continued to load up more wounded, while still under fire. Throughout the day he made over 14 such journeys into what became known as the Valley of Death – continuing his personal mission to provide support to the beleaguered 1/7 CAV. During the day he was forced to replace his vehicle twice, such was the damage caused by enemy fire. As night drew in, and only after he could be of no further assistance to the men on the ground, Crandall finally retired from the battlefield.

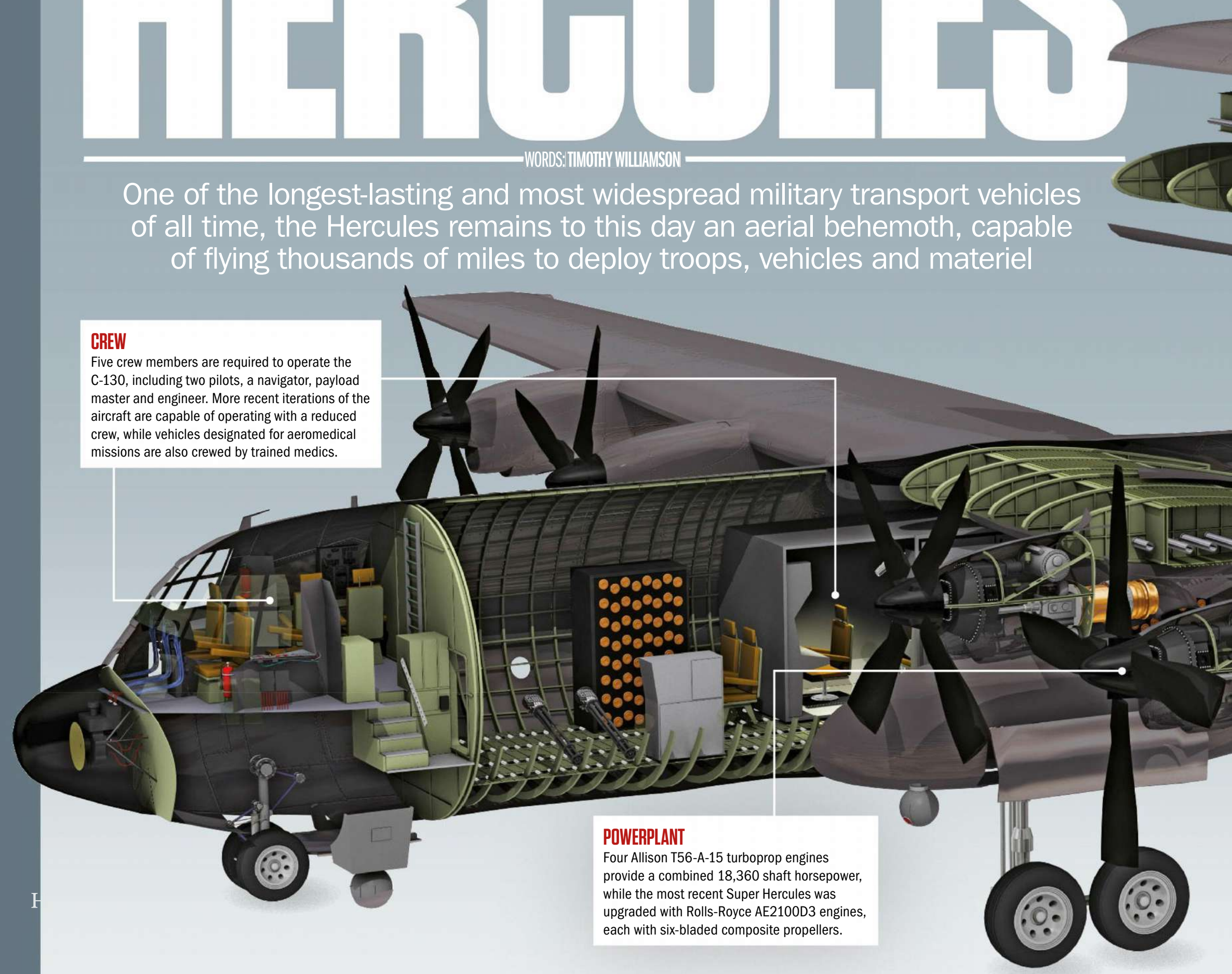
By the end of the first day of fighting, 1/7 CAV lost around 110 men, nearly a quarter of its strength. However, the Battle of Ia Drang stretched on for another two days, across several different landing zones. At one point, during the second day of the engagement, the commanding officer called for 'Broken Arrow', the codeword indicating a US battalion is in real danger of being overrun. This brought every available jet to the area, to deploy their bombs on the enemy, who were overwhelmed by the sheer firepower.

During the battle, Major Crandall rescued over 70 wounded soldiers in a total of 14 return trips. He went on to fly many more operations in Vietnam, continuing to distinguish himself as a daring and formidable pilot. During his second tour, his helicopter was downed during a rescue attempt. Though he survived the crash, Major Crandall broke his back and was forced into administrative roles for the remainder of his military career. Though initially awarded with the Distinguished Flying Cross for his actions during the battle, this was subsequently upgraded to the Medal of Honor, which he was invested with on 26 February 2007.

C-130 HERCULES

WORDS: TIMOTHY WILLIAMSON

One of the longest-lasting and most widespread military transport vehicles of all time, the Hercules remains to this day an aerial behemoth, capable of flying thousands of miles to deploy troops, vehicles and materiel



CREW

Five crew members are required to operate the C-130, including two pilots, a navigator, payload master and engineer. More recent iterations of the aircraft are capable of operating with a reduced crew, while vehicles designated for aeromedical missions are also crewed by trained medics.

POWERPLANT

Four Allison T56-A-15 turboprop engines provide a combined 18,360 shaft horsepower, while the most recent Super Hercules was upgraded with Rolls-Royce AE2100D3 engines, each with six-bladed composite propellers.

The C-130 Hercules is famed for its durability and versatility, and during its long service has established itself as the backbone of world militaries. Since its first introduction over 40 models and variants of the Hercules have been produced and are used today by more than 60 nations worldwide.

The need for a new heavy-lifting military transport first became a priority of the American military during the Korean War. Here, troops and materiel needed to be transported, often landing on small, poorly maintained airstrips. Though Lockheed Martin began developing a prototype during the war, it would not take flight until 23 August 1954, from the company's California plant. Nonetheless the C-130 proved a success, capable of takeoff in just 800 feet, and shortly after the first orders were arriving at US Air Force bases. During the Vietnam War, C-130s used a Low Altitude Parachute Extraction System (LAPES) to resupply troops at Khe Sanh, without the aircraft needing to land.

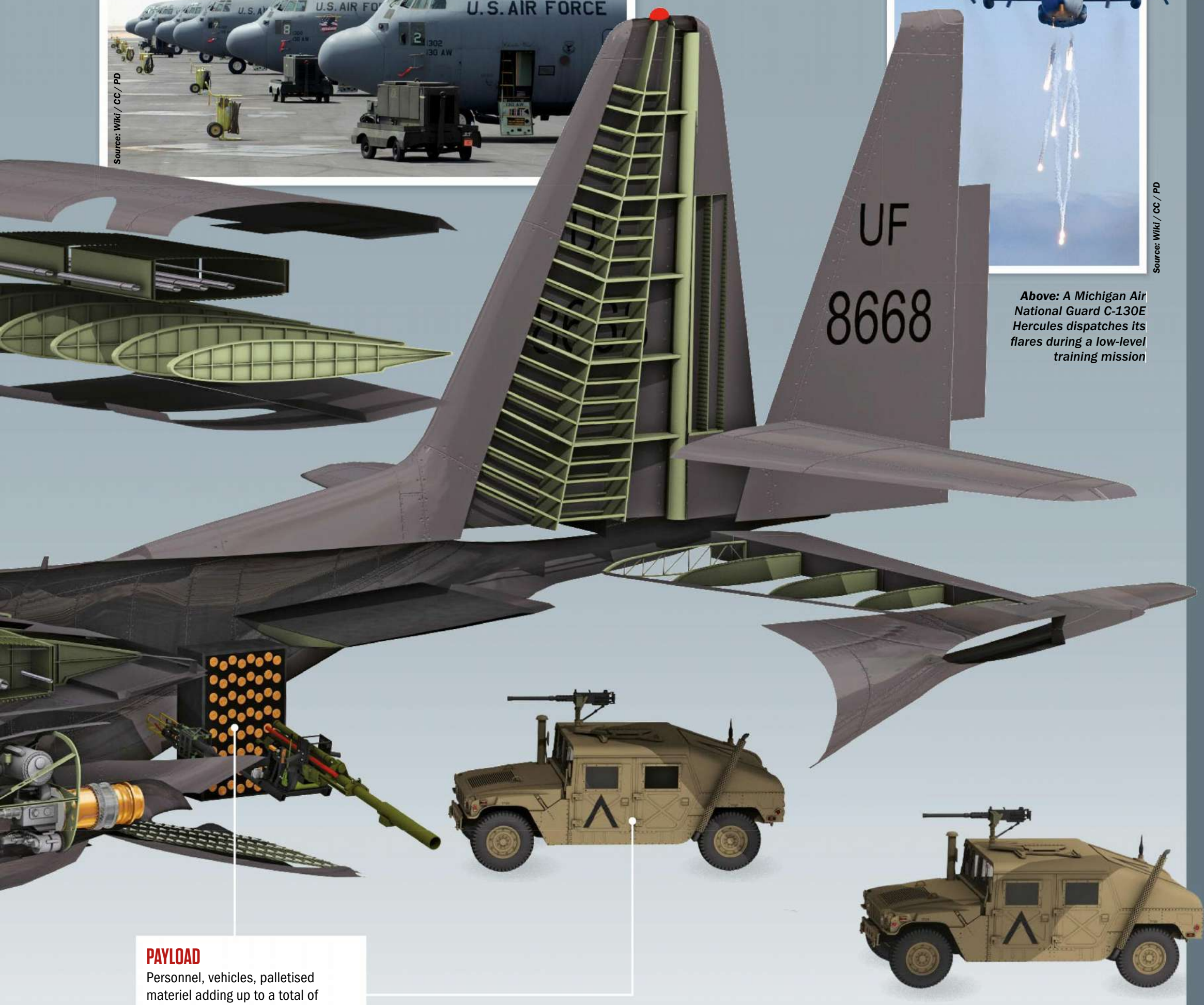
The aircraft is recognisable around the world by its cavernous central fuselage, in which the vast cargo bay can carry a huge number of personnel, vehicles, equipment, weapons and supplies over long distances. This has made the Hercules an ideal tool in military operations for decades, especially in 21st-century war zones where mission parameters often need to adapt fluidly and at high speed.

Source: Wiki / CC / PD

***Left:** US Air Force Lockheed C-130s*

Source: Wiki / CC / PD

***Above:** A Michigan Air National Guard C-130E Hercules dispatches its flares during a low-level training mission*



PAYLOAD

Personnel, vehicles, palletised materiel adding up to a total of 19,090kg (42,000lbs) can be stowed in the cargo bay, and deployed via the roll-on roll-off loading ramp to the rear of the fuselage.

The sheer lifting power of the C-130 cannot be overstated, with a single plane capable of lifting northwards of 33,000 kilograms (72,753 pounds), including payload and its own weight. As a heavy-lifting workhorse, the C-130 has few competitors capable of matching it and, as such, has seen off several contenders that were supposed to replace it (such as the C-5 Galaxy) and even spawned a larger but rarer Super Hercules variant, which first took flight in 1996.

"THE SHEER LIFTING POWER OF THE C-130 CANNOT BE OVERSTATED, WITH A SINGLE PLANE CAPABLE OF LIFTING NORTHWARDS OF 33,000 KILOGRAMS"

HERCULES C-130

COMMISSIONED:	1956
ORIGIN:	USA
RANGE:	3,800KM (2,360MI)
ENGINES:	ENGINE: 4 X ALLISON T56-A-15 TURBOPROP (3,423KW/4,590SHP)
CREW:	5
PRIMARY WEAPON:	2X MOUNTED M134 MINIGUNS

Source: Wiki / CC / PD

Ground crew remove an engine after a C-130 Hercules engine swap

Source: Wiki / CC / PD / Steve Lynes

POWERPLANT

Four Allison T56-A-15 turboprop engines are equipped to each C-130H, producing a huge 3,423kW (4,590shp) each. These enable the aircraft to reach a respectable top speed of 592km/h (366mph). The T56 is a single-shaft turboprop with a 14-stage axial flow compressor. The titanic turboprops enable the Hercules to climb at a rate of 9.3 metres (31 feet) per second, meaning it can quickly climb out of range of anti-aircraft armaments or other threats. The C-130 has a service ceiling of 10,000 metres (33,000 feet) with a cruise speed of 541 kilometres (336 miles) per hour.

Source: Wiki / CC / PD

Staff Sgt Christopher Rhodus performs an inspection on a C-130 Hercules engine

"THE TITANIC TURBOPROPS ENABLE THE HERCULES TO CLIMB AT A RATE OF 9.3 METRES (31 FEET) PER SECOND, MEANING IT CAN QUICKLY CLIMB OUT OF RANGE OF ANTI-AIRCRAFT ARMAMENTS"

A Royal Air Force Lockheed C-130J Hercules

US Air Force Lockheed C-130J Hercules

Source: Wiki / CC / PD / Steve Lynes

AVIONICS

Later models in the H series of C-130s were installed with ring laser gyros, GPS receivers, an upgraded APN-241 colour weather and navigational radar, improved generator control and bus switching units as well as an integrated radar and missile warning system. A large amount of mission-specific equipment can be fitted and removed from the Hercules as required.

General Thomas M. Ryan Jr. piloting a Lockheed C-130 Hercules

Source: Wiki / CC / PD

COCKPIT AND CREW

Due to its tremendous size and flexible capabilities, the C-130H is manned by five crew members, including two pilots, a navigator, flight engineer and load master. Due to the plane's large carrying capacity, the load master's role is to determine how to most efficiently load huge and diverse cargo. The latest C-130J Super Hercules iteration is designed to be operable with only two pilots and a payload master, in order to minimise risk.

PAYLOAD

With a maximum carrying weight of 19,090kg (42,000lbs), the C-130H can transport 92 combat troops or 64 airborne troops, three Humvees or two M113 armoured personnel carriers. If kitted out for a medical evacuation role, a single C-130H can also carry 72 litter patients plus two medics. Including its full weight, the Hercules engines are able to lift more than 33,000 kilograms (72,753 pounds) at high altitude.

US Army Paratroopers prepare to board a US Air Force C-130 Hercules

Source: Wiki / CC / PD

US Air Force Airmen from the 720th Special Tactics Group jump out of a C-130J Hercules during water rescue training in Florida

Source: Wiki / CC / PD

"SINCE ITS DEBUT, THE C-130 HAS SERVED AS THE WORKHORSE IN NEARLY EVERY MAJOR CONFLICT, FROM THE KOSOVO WAR, TO THE AFGHANISTAN INSURGENCY"

SERVICE HISTORY

C-130s have served with military forces around the world for over 60 years, fulfilling many operational roles including reconnaissance, special operations, combat delivery, humanitarian missions and more. During the Cold War, ski-fitted C-130s were used to resupply Distant Early Warning Line sites located in the Arctic Circle and many are also still in service with civilian coast guards for search and rescue support.

Since its debut, the C-130 has served as the workhorse in nearly every major conflict, from the Kosovo War, to the Afghanistan insurgency. In 2017, a specially adapted C-130 dropped a GBU-43/B Massive Ordnance Air Blast, or 'Mother of All Bombs' on target in Eastern Afghanistan.

Despite the US Air Force aiming to instigate a programme to produce a replacement for the C-130 in 2014 – for eventual delivery in 2024 – uptake for the existing programme has not slowed. In December 2011, Lockheed Martin announced two new variants of the Hercules: the C-130XJ and C-130NG. As such, despite the aircraft's age, it is unlikely that it will be retiring any time soon. The Super Hercules iteration is in operation across more than 20 countries and has clocked over two million hours of flight time.

A US Air Force Lockheed LC-130H-LM Hercules at Williams Field, Antarctica

Source: Wiki / CC / PD / Andrew Mandemaker

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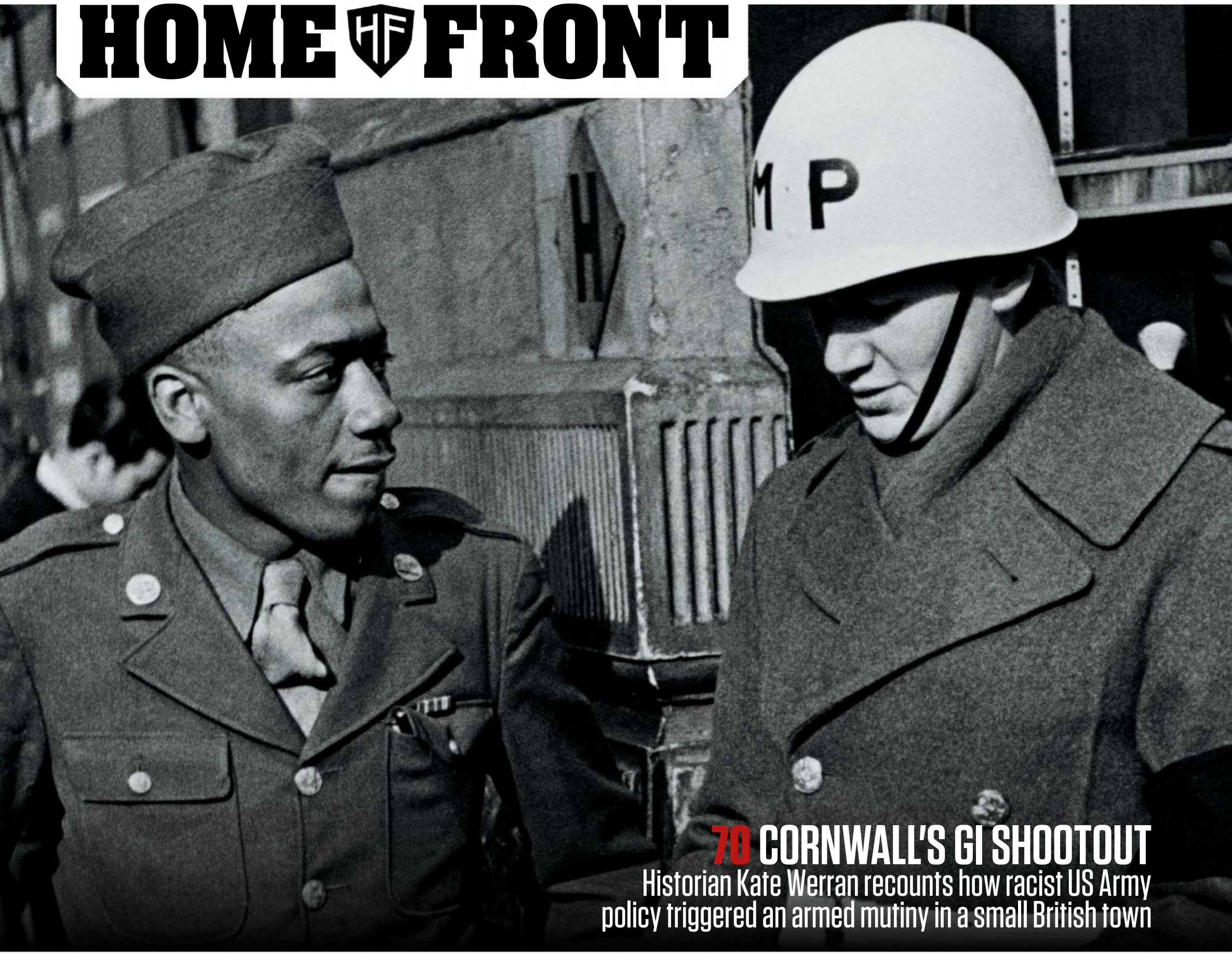

70 CORNWALL'S GI SHOOTOUT

Historian Kate Werran recounts how racist US Army policy triggered an armed mutiny in a small British town

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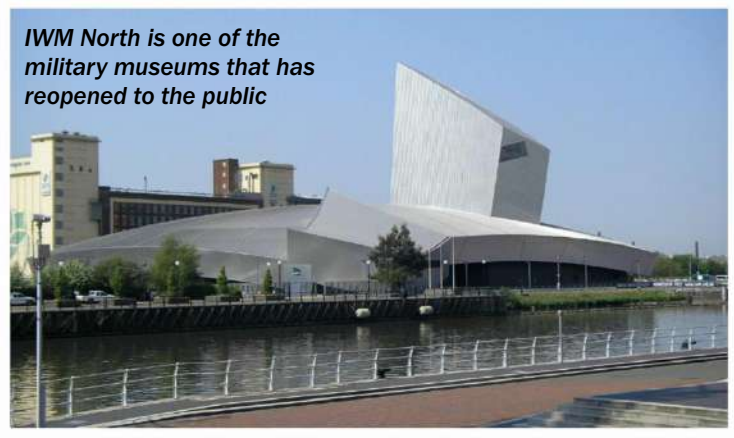
MUSEUMS & EVENTS

Discover how England's military museums are reopening their doors again after Covid-19, a spectacular ruined castle in Northern Ireland and an abandoned Roman fort in the Lake District

The National Trust has reopened parts of properties like Bodiam Castle in East Sussex. This includes facilities like car parks, grounds, toilets and cafés (for takeaway services)

Source: Wiki / PD / CC / WyrdLight.com



IWM North is one of the military museums that has reopened to the public

Source: Wiki / PD / CC / Nick-D

REOPENING MILITARY HISTORY

Museums across England can now be visited again with rigorous procedures to reassure visitors of their safety and to maximise their enjoyment

The Covid-19 pandemic has seen cultural venues, including museums, temporarily close across the world. Military museums have been no exception but as lockdown measures are being slowly lifted across England, historical venues are cautiously reopening. This includes major centres for military history that include the National Army Museum, Royal Air Force Museum, Tank Museum and many more with heavy precautions in place.

Major military museums are conforming to the latest British Government and Industry Covid-19 guidelines that have a recognised process in place to maintain cleanliness and aid social distancing. Booking tickets is strongly advised across the board and on-site cash handling is being minimised with 'contactless' bank cards being the preferred method of payment. Wearing a face mask is encouraged as of mid-July 2020 and museum staff members are being trained in prevention and the use of Personal Protective Equipment. Where appropriate, museums are staggering entries and offer safe one-way routes around their venues. Cleaning regimes have also increased with hand-sanitising stations being placed at entrances with additional stations along routes. As part of the reopening of museums, some parts of each particular venue will remain temporarily closed to increase visitor safety. The National Army Museum for instance is closing its café, cloakroom, lunch room and the Play Base for children.

Britain's national military history museum, the Imperial War Museum, has five branches in England – IWM London, IWM Duxford, IWM North in Greater Manchester, the Churchill War Rooms and HMS Belfast. All of these have reopened since 1 August 2020 with the exception of HMS Belfast because of its small rooms, ladders, narrow corridors and close-quarters access issues.

Historic ships like HMS Belfast are likely to be the last military attractions to reopen. This includes HMS Victory, HMS Warrior and other vessels belonging to the National Museum of the Royal Navy. However, parts of naval attractions like Portsmouth Historic Dockyard are reopening so check each museum's website for information before booking a visit.

Restrictions also apply to military history venues that are not museums. Organisations such as the National Trust and English Heritage request bookings for attractions such as castles and will turn people away who arrive without booked tickets. Although this will slightly alter people's experiences, they are designed to ensure everyone's safety. Moreover, heritage organisations and military museums are keen to emphasise that visitors will still be able to enjoy exploring history and they will still be given a warm, safe welcome from staff and volunteers.

FOR MORE INFORMATION VISIT:
WWW.IWM.ORG.UK/VICTORY

A CHIEFTAIN'S STRONGHOLD

Dunluce Castle is one of the most famous attractions in County Antrim with a swashbuckling history and dramatic views

Perched on a basalt outcropping on the northern coast of County Antrim, Dunluce Castle is one of the most romantic ruins in Northern Ireland. A fortress has existed on the site since the 13th century although the present castle dates from the early 16th century. Built by the McQuillan lords of Route, Dunluce was seized by both the Ulster Clan MacDonnell and Scottish Clan MacDonald of Dunnyveg during the 1500s. Its most famous owner was the warrior chieftain Sorely Boy MacDonnell who renovated the castle in a Scottish style. During the Spanish Armada of 1588, the Spanish galleass La Girona was wrecked nearby during a storm. Its cannons were installed in the gatehouse while funds from the retrieved cargo were used to restore the fortress.

Now ruined, Dunluce is still owned by the MacDonnell family but it is currently managed by the Northern Irish Environment Agency. From 6 July 2020 it is open during the summer between 9.30am-5.00pm daily. The castle is accessible by a bridge that links it to the mainland although there is limited access for wheelchair users. All children must be accompanied by an adult and no dogs are allowed except for assistance dogs. For intrepid visitors, Dunluce is also close to the iconic Giant's Causeway rock formation, which is less than five miles away.

Part of the castle was destroyed in 1639 when the kitchen fell into the sea

Source: Wiki / PD / CC / Giorgio Galeotti

FOR MORE INFORMATION VISIT:
WWW.DISCOVERNORTHERNIRELAND.COM

ROME'S REMOTE GARRISON

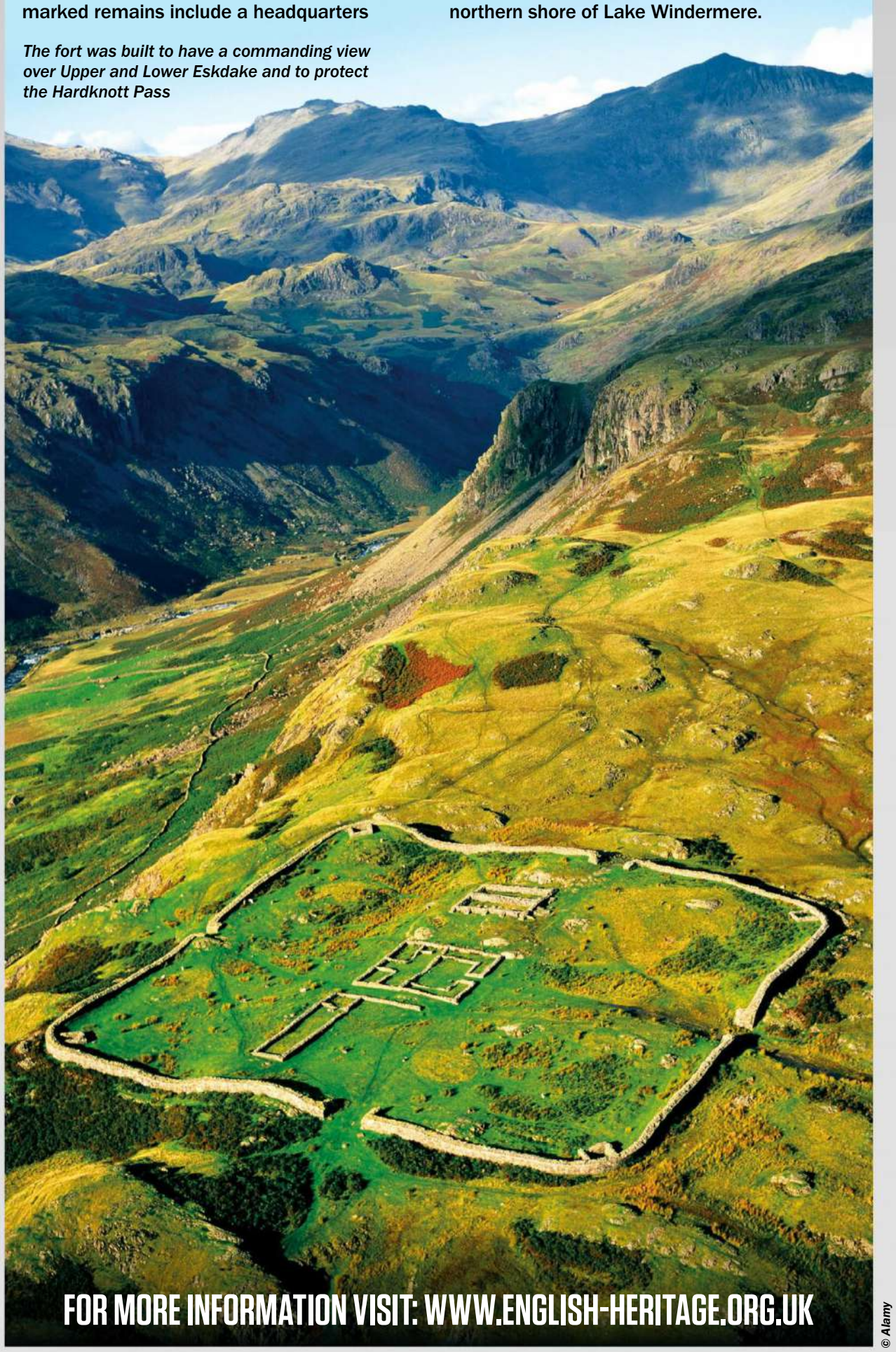
Hardknott Fort is one of the most isolated and dramatically sited Roman fortifications in Britain

Established in the early 2nd century during the reign of Emperor Hadrian, Hardknott Roman Fort lies at an altitude of 800 feet over the River Esk in Cumbria. At one time it was garrisoned by Cohors IV Delmatarum, an auxiliary unit of approximately 500 infantrymen from the Balkans. The fort was initially demilitarised in the late 130s after the Roman occupation of southern Scotland. Emperor Marcus Aurelius re-garrisoned Hardknott in the 160s before it was abandoned in the early 3rd century.

Hardknott was a small fort of three acres, four gates and lookout towers. Its well-marked remains include a headquarters building, commandant's house, two granaries and a bath house. A parade ground also survives 200 yards east of the fort.

The fort is owned by the National Trust but is maintained by English Heritage. It can be visited at any reasonable time during daylight hours and there is parking space available for cars near the site just off the Hardknott Pass. Due to its remote location, the fort is not easily accessible because the Pass must first be navigated before a hike to the site. Two other Roman sites can also be visited in the local area – a nearby bath house at Ravenglass and Ambleside Fort on the northern shore of Lake Windermere.

The fort was built to have a commanding view over Upper and Lower Eskdake and to protect the Hardknott Pass



FOR MORE INFORMATION VISIT: WWW.ENGLISH-HERITAGE.ORG.UK

© Alamy

WORDS: TOM GARNER

CORNWALL'S GI SHOOTOUT

In 1943, gunfire broke out in a small Cornish town that exposed appalling racism within the US Army and antagonised already tense relations with their British hosts

On 26 September 1943, the quiet town of Launceston was disturbed by a dramatic firefight between black and white American soldiers. Two white military policemen of 115th Infantry Regiment were wounded in the presence of British civilians and servicemen and this small but alarming incident escalated into a newspaper sensation that was mired in controversy.

The subsequent court-martial of the African American soldiers from 581st Ordnance Ammunition Company occurred in the seaside town of Paignton, Devon. Labelled by the tabloids as a "Wild West" mutiny, it was a far more serious affair that caused Winston Churchill "grave anxiety". The Launceston shootout damningly exposed violent racial tensions within the US Armed Forces and – in the court of public opinion – the British openly sided with the discriminated black soldiers.

Long forgotten as a wartime footnote, British historian Kate Werran has uncovered this previously neglected story in her book *An American Uprising In Second World War England*. She discusses how the incident debunks myths about the 'Special Relationship', Anglo-American tensions over segregation and its relevance today in a world where racial tensions remain at the forefront of political discussion.

A US military policeman checks the papers of an African American GI

"IT WAS OFTEN BELLIGERENT POLICING BY THE US MILITARY POLICE AND THAT WAS WHAT REALLY RILED THE BRITISH. IT WAS AN EGREGIOUS EXAMPLE OF RACISM"

© Getty

Kate Werran is a historian who has also worked as a journalist and TV documentary producer for Channel 4, Channel 5 and the BBC

SEGREGATION AND THE 'SPECIAL RELATIONSHIP'

What inspired you to write the book?

My dad is from Launceston and when his family moved there in 1947 the talk of the town was this big shooting. Everyone wondered what happened to the American soldiers who were involved and nobody knew. We used to go to Launceston and there are still bullet holes in the war memorial and White Hart Hotel.

I became a film and television producer and thought, "I've got to investigate this story one day." I put in a Freedom of Information request for a transcript of the court-martial and it turned up a year later on my doorstep. It was the most amazing bit of writing and was like a legal drama but I had my first baby and almost forgot about it. When the last of my four children went to primary school I dug it out again. I wanted it resolved and to find out what happened because nobody really knew and there didn't seem to be a clear-cut answer.

How prevalent was institutional racism in the US Armed Forces during WWII?

It was a segregated army. One in ten of the military servicemen were African American but when they joined the army they were effectively relegated to logistics and supplies work. There were exceptions such as the Tuskegee Airmen but they were rare. For the main part, if you joined the army you would go to training camp where you had separate facilities. African American veterans have described that they weren't just separate but worse. Sometimes they didn't have beds or couldn't eat off tables and they were treated dreadfully. The general bad language and violence around them was pretty much universal. They were segregated by their race, jobs and treatment. They wouldn't even be allowed to go to dances in towns when they had their R&R. They weren't given the same opportunities or facilities as their white counterparts. It was institutional racism by its very nature.

When they came over to Britain it was difficult. The US Army wanted to continue with segregation and automatically felt that this would mean segregated restaurants and pubs for the servicemen. That caused a problem in Britain because it was a country that had very few people of colour at the time. The British just weren't used to this "colour bar" where the races were separated. It sat really uncomfortably because Britain was host to an overwhelming number of Americans before D-Day and beyond.

How genuine was the 'Special Relationship' between the United States and Britain?

We all have this rose-tinted view of what this 'Special Relationship' was but there were actually lots of government reports charting the difficulties that the British and Americans had. The Americans came with a more modern way of living and hated the weather and the way the British lived. They didn't get the concept of rationing and were paid three times more the wages of British servicemen so there was bound to be clashes.

The segregation in particular sat really uncomfortably with the British and I think this is why the authorities were so keen to cover up the shootout in Launceston. They didn't want people to know the court's verdict because the British had great sympathy for the African Americans.

I found secret memos and letters in the archives that were sent to the Foreign Office by irate people who witnessed punch-ups between black and white GIs where the white officers stood by and did nothing. It got very nasty and the difficulty for the 'Special Relationship' was that the British sided with the African Americans because it was something they didn't like. Mixed marriages were banned in the majority of the USA at the time so when white GIs saw white British women dating black soldiers it was like a red rag to a bull for many of them.

How were African American soldiers received by British civilians?

The reception they had in all parts of Britain was incredibly welcoming. There is an apocryphal tale of a landlord who put out a sign outside his pub that said "This pub is reserved for Englishmen and Coloured Soldiers". This did not apply to the white American soldiers so the British took the African Americans to their hearts. They couldn't understand why they couldn't serve people drinks if they were fighting. There is lots of evidence that the British made a real effort to treat the African Americans the same.

Walter White, who was in charge of the NAACP [National Association for the Advancement of Colored People], came over to investigate what was going on in Britain. There were rumours getting out of the sympathy that the British had for the ordinary African Americans who were coming over. His view was that most of the African Americans were posted to rural locations and a lot of them were themselves from the rural south. There was a therefore a synergy between the two different types of people who both had to work very hard for a living.

What kind of racist incidents would be perpetrated by white American servicemen against their African American counterparts?

The incidents would be as casual as kicking African Americans off a bus, out of restaurants, cinemas or off the street. One black serviceman said, "The only active service I ever see is when a gun is put to my head, I'm called the 'n' word and told to get back to base."

It was often belligerent policing by the US Military Police and that was what really riled

Right and below: *Black and white GIs watch boxing World Heavyweight Champion Joe Louis at Bodmin Barracks, Cornwall in 1944. The US Army's segregation policy is visibly seen in the seating arrangements*

Left: *An English policeman gives directions to an African American sergeant, c.1942*

© Getty

© Pen & Sword and Kresen Kernow

the British. It was an egregious example of racism, particularly when they were told they couldn't serve black soldiers. The British don't like being told what to do, especially if they are being told by people who have a different way of dealing with society than they do.

One member of the Colonial Office said, "We have an empire with people of colour and we don't want them to be treated like that." That was the other problem because the Americans weren't discriminating between different nationalities. They would treat Caribbean servicemen in the British forces the same way. There's an incredibly sad case of a sergeant who was kicked out of a dance and he objected. He wrote a strong letter that said, "I'm putting my life on the line every night and yet I'm not allowed to go to a dance by the Americans." This case wasn't pursued because very sadly he was shot down a week after this incident.

What impact did the arrival of African American troops in Launceston have on the local population?

Launceston is an old town with an imposing castle and the impact of the Americans on the whole area was transformative. They brought people like Bob Hope, Glenn Miller and Joe Louis. These very famous celebrities would mingle with the locals and it is still remembered.

When the African Americans came they would go to church and wowed everyone with their fantastic vocals. They treated the women with courtesy and I've heard lovely stories about how welcomed they were. People were initially frightened but it was only because the preceding white Americans told the most awful lies about the black troops. They were told that they had tails, barked, couldn't speak and would try to kill the local people.

People were consequently very surprised when they found out they were really nice guys who were very polite and generous. They were always buying drinks and giving candy to children so the people of Launceston were impressed.

BULLETS AND INJUSTICE

How did the shootout in Launceston unfold on 26 September 1943?

Launceston was the third camp that the 581st Ordnance Ammunition Company had been at. Of the two camps before they had been at Fort Phil in Oklahoma before they went to Camp Patrick Henry. In both of those camps they had been restricted because of the levels of violence shown towards them by white GIs. Consequently, the Company hadn't previously been allowed out and within hours of getting to Launceston they were told that they couldn't go into town because they didn't have the correct dress shirts. In fact, no one had the correct dress shirts but it didn't stop the white GIs going into town.

The African Americans saw red and snuck into town on a Saturday night. There was an argument between the black and white soldiers at a dance where they had bought tickets but they were evicted by the white MPs. On the Sunday night, which was 26 September, a large group went into town again and there was another conflict with a group of white soldiers. The white troops had made motions to the African Americans when they came into the pub and a scuffle broke out.

One of the black soldiers said to the others after they went outside, "Shall we stick together?" They went back to camp and armed themselves with Tommy guns, bayonets and ammunition before they marched back into town. They stopped at the war

African American soldiers freely danced and socialised with white women in Britain, an act that was largely prohibited in the United States at the time

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Above: *American GIs march into Launceston town square for a fundraising 'Wings for Victory' parade, June 1943*

Right: *American soldiers line up in Launceston town square, June 1943. They are standing in front of the drapers shop Hicks & Son, which would be shot up during the shootout a few months afterwards*

© Getty

Some of the first African American troops to arrive in Britain drink beer in a local pub

memorial where they found a cluster of white MPs and two US Army Jeeps.

It was just before pub closing time at 10.00pm and it was actually quite busy in the square where there were Land Army girls and British servicemen. A few words were uttered to the white MPs to the effect of, "Why aren't we allowed to come into town?" It was enough to trigger a gunfight which involved the African American soldiers and the MPs who couldn't believe this was happening. It became chaotic and two MPs were shot in the legs before the perpetrators melted away into the night. There was then a big round-up.

What happened at the subsequent court-martial in Paignton?

The interesting thing is that even army prosecutors said, "This is not attempted murder." However, when the charges were brought they were attempted murder, riot and mutiny. It turned into a kangaroo court where not one of the white MPs could identify any of the defendants. Even the investigators couldn't identify them and got the individuals confused. People misremembered facts and flip-flopped. One person got up and said, "This is not the report I gave the investigator."

The main prosecuting lawyer was also very charismatic, knew what he wanted to say and kept getting back on track. I'm not sure if the defence was intentionally shoddy but they would make quite good points before letting it get away. The court-martial reads like a drama script but what happened was so sad and predictable to the defendants in the way they were treated. They didn't have a fair trial but you can sense the British sympathy for them from reading the story.

How was the trial reported?

The judge said at the beginning, "We're not going to talk about race and are going to bar talking about it." However, a plucky *Daily Mirror* journalist pointed out, "We've already reported it," which was a breakthrough moment because it meant the story could be reported in America. All of the British journalists had been trying to write about it but had been banned so it was a really good moment for the British tabloid press.

The trial became headline news everywhere and was likened to a Hollywood film because it was so dramatic. The courtroom had been rearranged to look like an American courtroom with huge Stars and Stripes flags but some witnesses also sat in deckchairs that had 'Paignton District Council' written on the back.

There were even newspaper editorials and it was a story that journalists wanted to write about. The reason is because they knew there was violence wherever black and white American soldiers met across Britain. The authorities were trying to keep a lid on it, ban the racial element and just describe it as a punch-up. Actually, the summer of 1943 was particularly bloody. There were riots in five US cities and I feel that this sort of violence came over and was being played out on British streets. The only thing was that when it was happening in the UK you had British people taking a view on it.

What was the verdict of the trial?

They were found guilty. When the army panel came back to court they wanted to check if the defendants had previous convictions. Very few of them had and if they did it was for very minor offences. These were young guys, most of them had families and they had no reason to want to go to prison.

It makes me so sad because when the court-martial president came back he said, "We've found our verdict but we're not going to report it." Consequently, nobody knew the outcome and most thought that the defendants had been executed. They were actually sentenced to the minimum of 15 years hard labour with a maximum of 20 years.

"WE AIN'T NO SLAVES"

To what extent did the trial have the potential to threaten Anglo-American relations?

I think the threat is why the trial's outcome was ultimately censored because there had been similar incidents. There was a huge shooting at Bamber Bridge, Lancashire, in June 1943 where an African American soldier was killed and there was an insurrection a few days afterwards in Corsham, Wiltshire. British people had crowded white GIs saying, "That's not fair. That's not democracy because you're not treating them [the African American soldiers] the same." One of the black sergeants involved even said, "We ain't no slaves. This is England."

This was happening all over Britain and I think the Paignton trial was censored by the US Army because the details were embarrassing.

What did the shootout and trial say about the British attitudes towards African American soldiers?

There would have undoubtedly been racism in Britain but the British simply had a different view on colour and it was very awkward because they needed the 'Special Relationship' to work. It did work on many levels but on the issue of race it didn't. There was always this middling tension that ebbed away at the relationship.

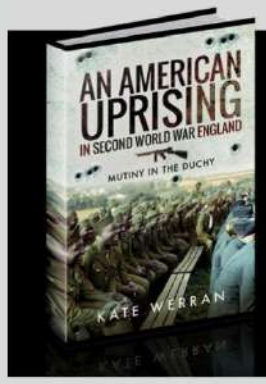
Are there grounds to call what happened in Launceston a race riot?

Yes, absolutely. I think the African American soldiers had simply got to the end of their tether and pushed back. I think if they had intended to murder they would have done but they didn't – they were making a point.

Don't get me wrong, the two military policemen were badly injured but they didn't receive life-threatening wounds and both ended up fighting at Omaha Beach. I think the black soldiers were simply saying, "That's enough." The people who remember them now in Launceston were children then and have nothing but affection for the African Americans.

With recent protests and political movements bringing the issues around racism into focus, to what extent does the Launceston shootout and Paignton trial resonate today?

It feels very relevant. When I was researching it and considering what is happening now I think that everyone needs to be very truthful about what happened in the past. Only by being honest and recognising that things haven't been done right can we go forward. We need to look at it all, both in America and Britain's own colonial past, and teach it correctly. It's part of both countries' stories about how we were. We need to get beyond the sugar-coating of history but at least we're now talking about it.



Kate Werran is the author of *An American Uprising In Second World War England. Munity In The Duchy*, which is published by Pen & Sword History.
To purchase a copy visit: **www.pen-and-sword.co.uk**

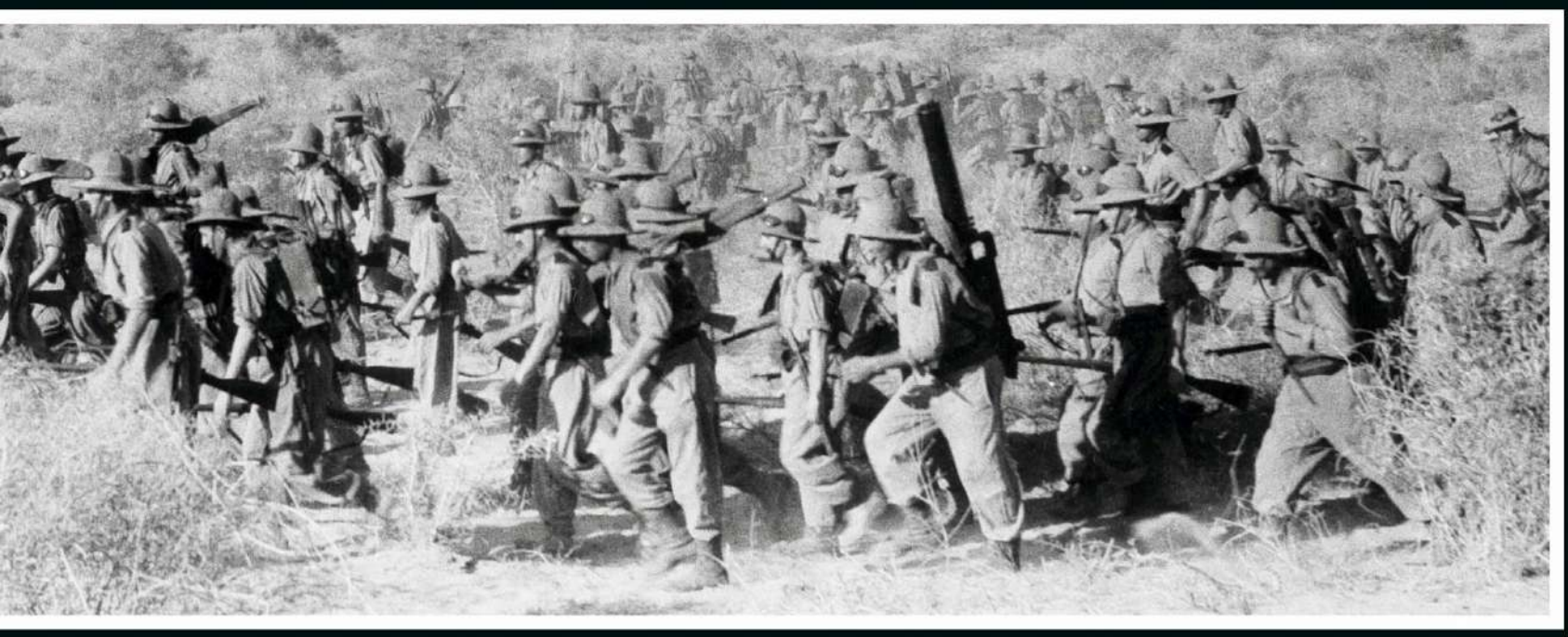
WWII THIS MONTH...

AUGUST 1940

To commemorate 80 years since the Second World War, **History of War** will be taking a look at some of the key events taking place during each month of the conflict

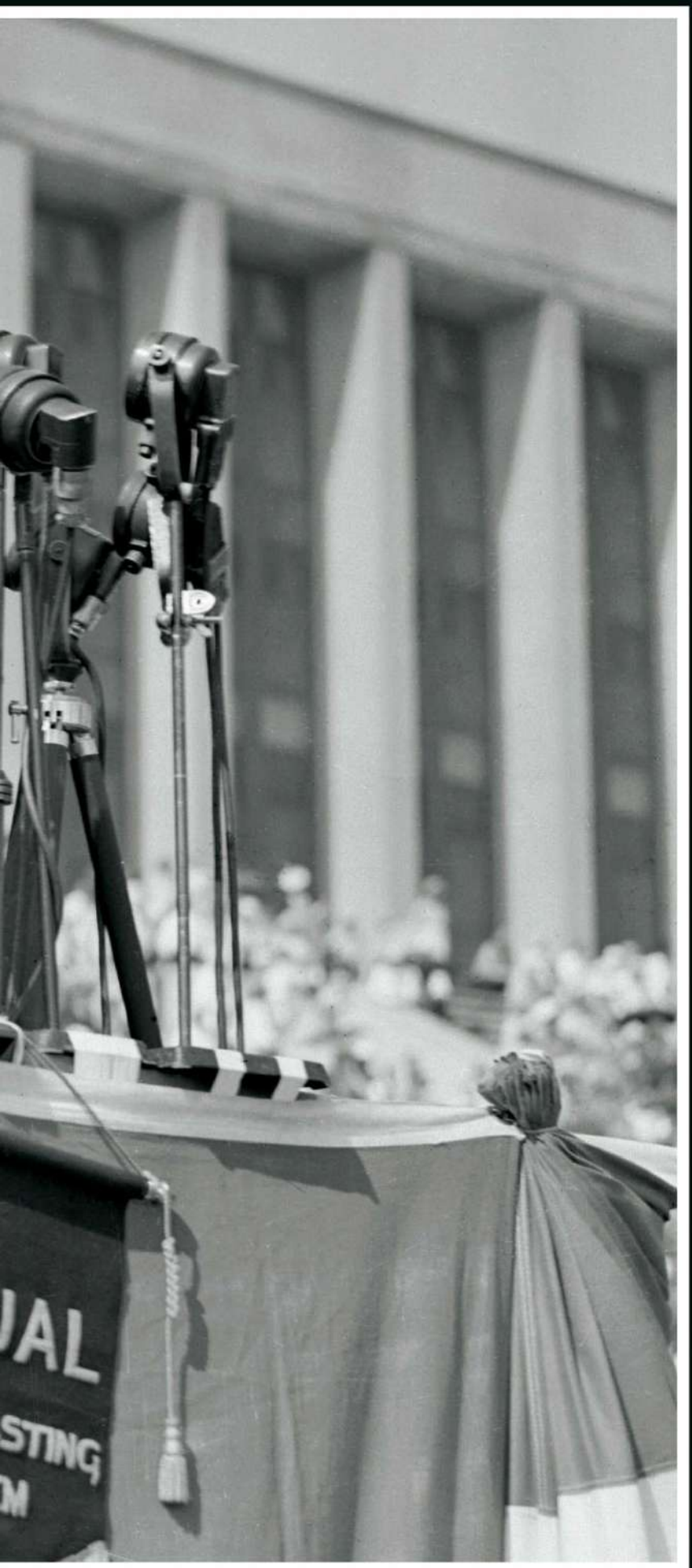
"A PLAN FOR PEACE"

In the US, the debate continued as to whether the country should intervene in the war across the Atlantic or maintain its neutrality. Isolationists, or noninterventionists, many of whom would become part of the America First Committee pressure group, argued against providing military aid of any kind to foreign powers. Among the most prominent advocates of the isolationist position was Charles Lindbergh, the celebrated aviator, who in 1940 gave several speeches at rallies against American intervention. During a speech at Soldier Field, Chicago, Illinois, in August, he said, "If we desire to keep America out of war, we must take the lead in offering a plan for peace. That plan should be based upon the welfare of America … But it should not involve the internal affairs of Europe; they never were, and never will be, carried on according to our desires."



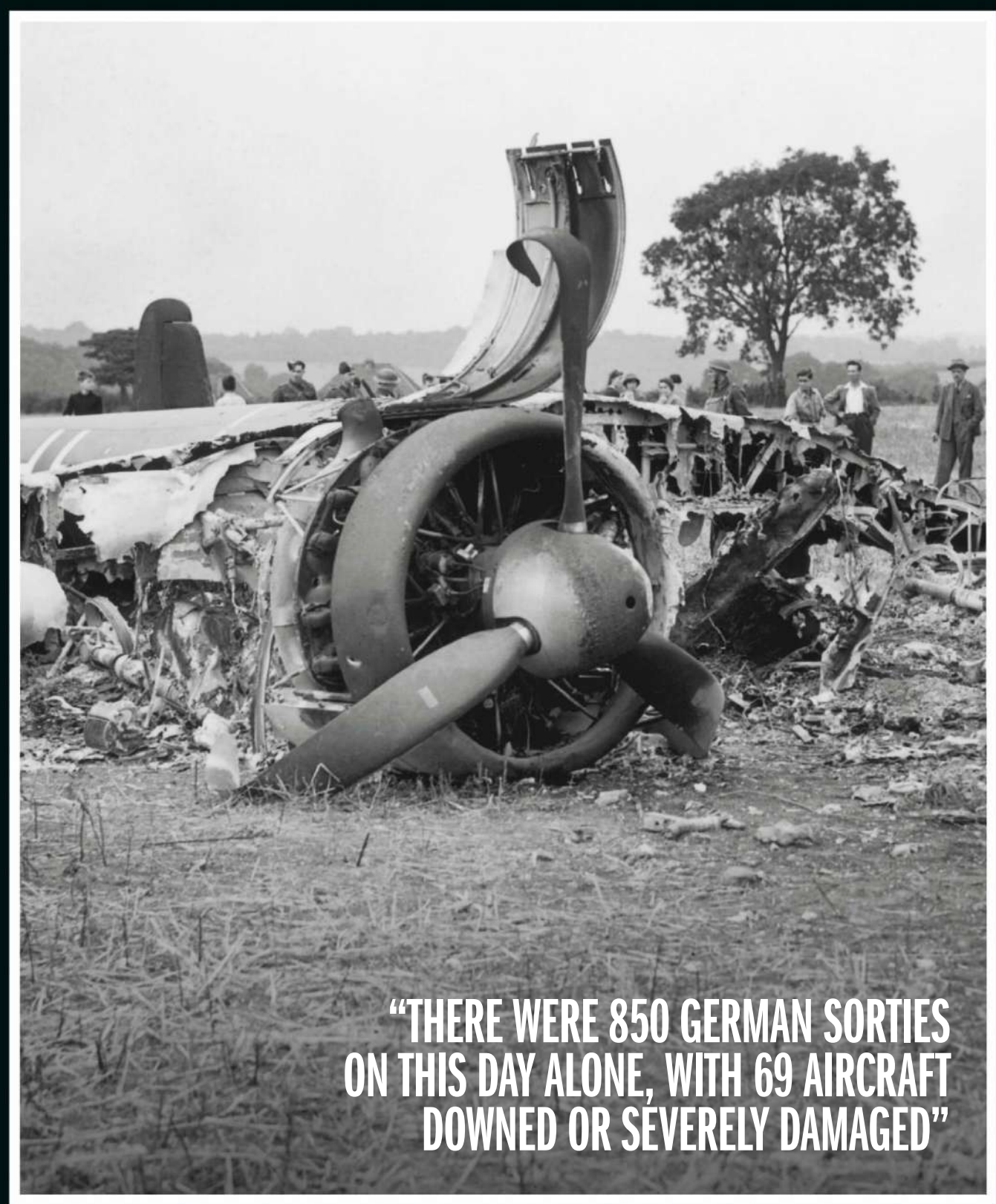
ITALIAN OCCUPATION OF SOMALILAND

Troops on the march during Italy's invasion of British Somaliland. After Mussolini's declaration of war on Britain and France, Italian forces began offensives to seize Britain's colonial possessions in Africa, expanding the country's territory seized after the invasion of Abyssinia (Ethiopia) in 1935-6. The British and colonial forces in the region were too few to put up much resistance and were decisively defeated during the Battle of Tug Argan. The Royal Navy subsequently supported the evacuation of forces, leaving the region in Italian control.



"MADE IN GERMANY, FINISHED IN BRITAIN"

A downed Dornier bomber draws a small crowd of spectators in southern England. The aircraft was shot down on 18 August, dubbed 'The Hardest Day' because of the huge number of Luftwaffe and Fighter Command aircraft that engaged. There were 850 German sorties on this day alone, with 69 aircraft downed or severely damaged. A Home Guard unit in the area laid claim to bringing down this plane by rapid rifle fire, though this account has been disputed. A British Pathé newsreel later triumphantly claimed, in reference to the downed Dornier, "Made in Germany, finished in Britain."



"THERE WERE 850 GERMAN SORTIES ON THIS DAY ALONE, WITH 69 AIRCRAFT DOWNED OR SEVERELY DAMAGED"

Images © Getty

REVIEWS

Our pick of the latest military history books

THE ENGLISH CIVIL WAR

AN ATLAS AND CONCISE HISTORY OF THE WARS OF THE THREE KINGDOMS (1639-51)

A MUST-HAVE REFERENCE SOURCE FOR STUDENTS OF THE PERIOD, AND A MASTERFULLY MADE ROAD MAP FOR THOSE WANTING TO LEARN MORE

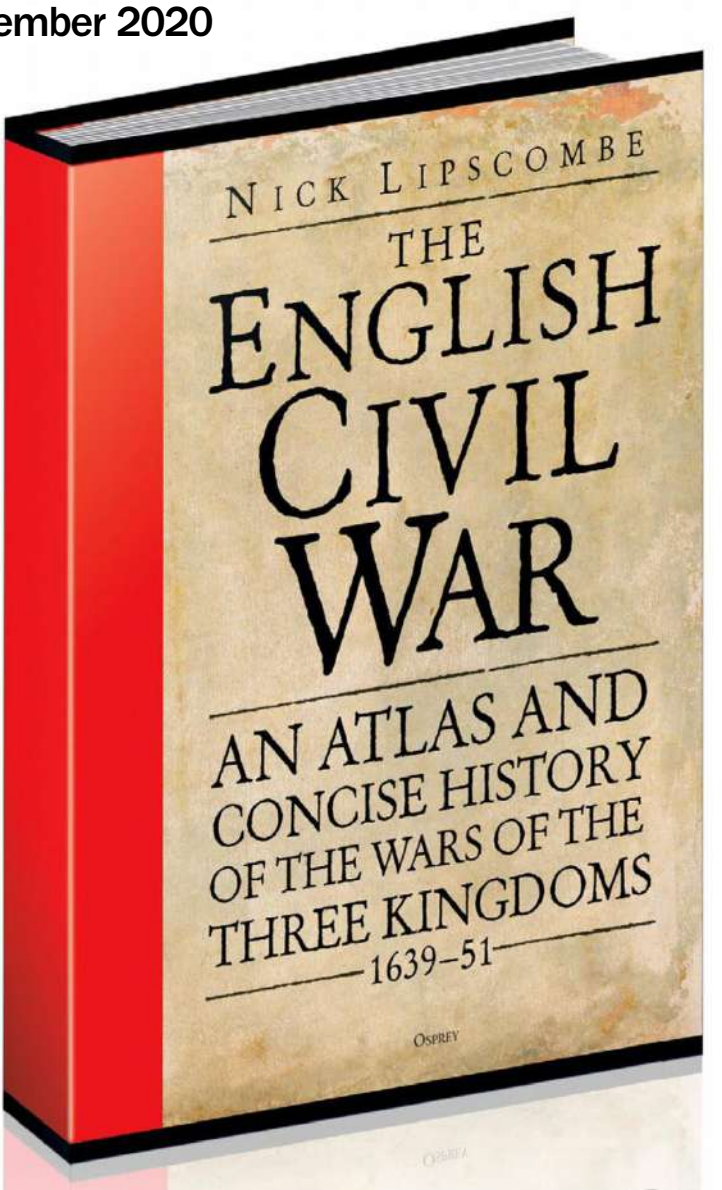
Author: Nick Lipscombe **Publisher:** Osprey **Price:** £50.00 **Released:** 17 September 2020

The English (or for some historians, the British) Civil Wars encompass a period of incredible change, with an incalculably long-lasting impact across the British Isles and beyond. It is an incredibly complex era, steeped in politics, as well as societal and religious upheaval. For the military historian, it is also a transitional moment in warfare, with firearms firmly at the fore, but lined up alongside thick pike formations and cavalry, resulting in rapidly changing battlefield tactics.

Perhaps because of this complexity, the Civil Wars are largely underrepresented on mainstream shelves and broadcast schedules, but here Nick Lipscombe has applied his meticulous touch to the topic. For those unfamiliar with either the era, or the events of the Civil Wars, Lipscombe leaves no corner of confusion. As well as taking the reader through all 14 years of the wars chronologically, Lipscombe pauses in order to thoroughly explain everything from European infantry formations, to 17th century cavalry tactics.

For readers less familiar with the topography of the British Isles in particular, the 'Atlas' element of this title is invaluable. As with his previous title, *The Peninsular War Atlas*, the author has mustered a host of incredibly detailed, yet easy-to-read maps and illustrations – 156 of them. As well as every major battle of the wars, including many lesser-known, these illustrate everything from the Royalist march on London, to the layout of the Palace of Westminster circa 1640, making the period feel wholly more accessible.

Though this tome is certainly not designed for a cover-to-cover cosy read (though some enthusiasts of the period may disagree) it is without doubt one of the most foremost reference sources on the Civil Wars available today. Including extensive indexing, glossary of terms and a heaped bibliography, it is not only clear the immense level of research and work that has gone into this project, but also the subsequent study and engagement it hopes to inspire in readers. **TW**



"THE CIVIL WARS ARE LARGELY UNDERREPRESENTED ON MAINSTREAM SHELVES AND BROADCAST SCHEDULES, BUT HERE NICK LIPSCOMBE HAS APPLIED HIS METICULOUS TOUCH TO THE TOPIC"

***Left:** King Charles I and Prince Rupert before the Battle of Naseby during the English Civil War*

BATTLE OF BRITAIN 1940
THE FINEST HOUR'S HUMAN COST

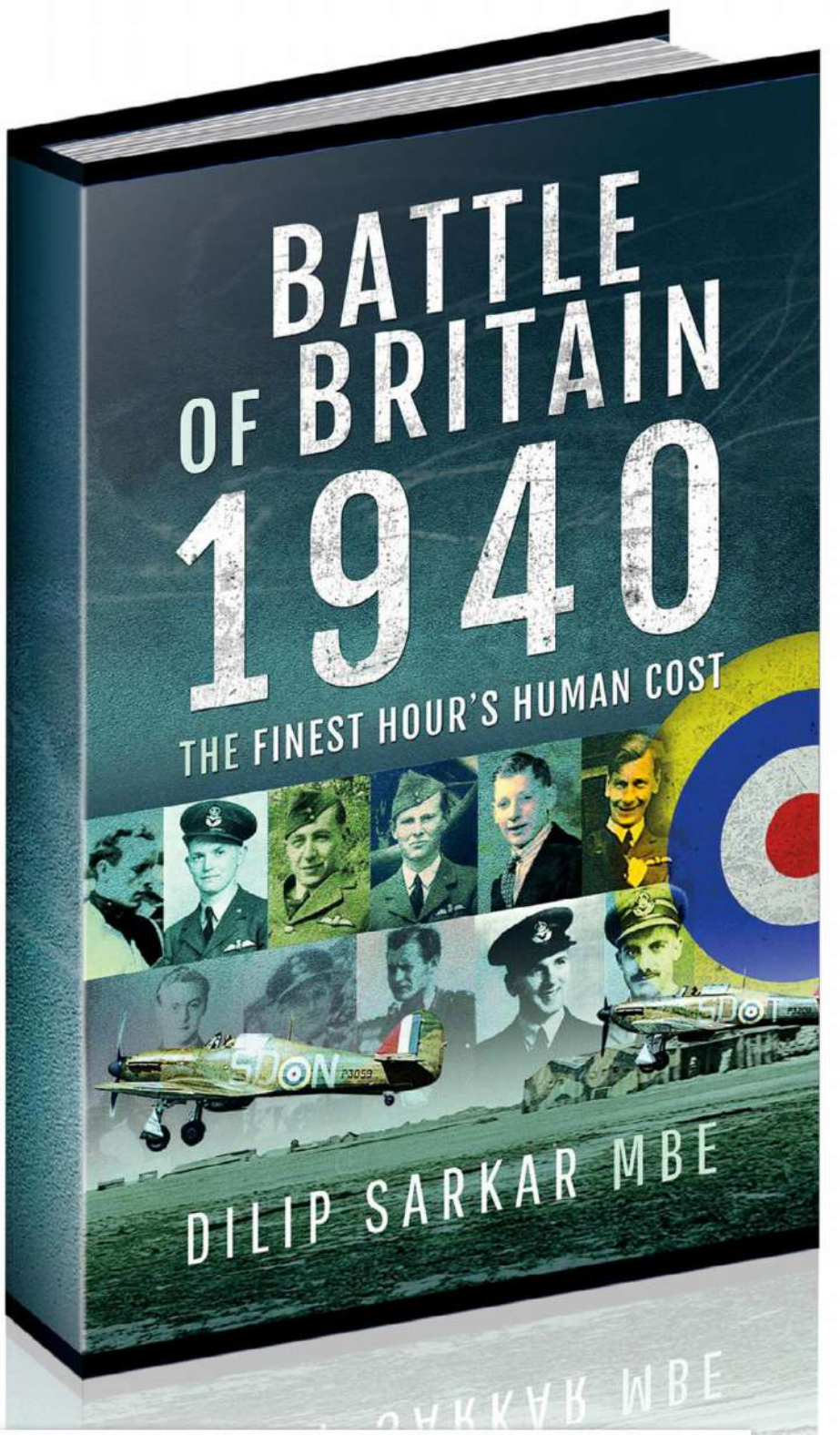
A FRESH ANGLE ON THE BATTLE, EXPLORING THE LESS GLORIOUS, GRIM REALITY

Authors: Dilip Sarkar **Publisher:** Air World **Price:** £30.00

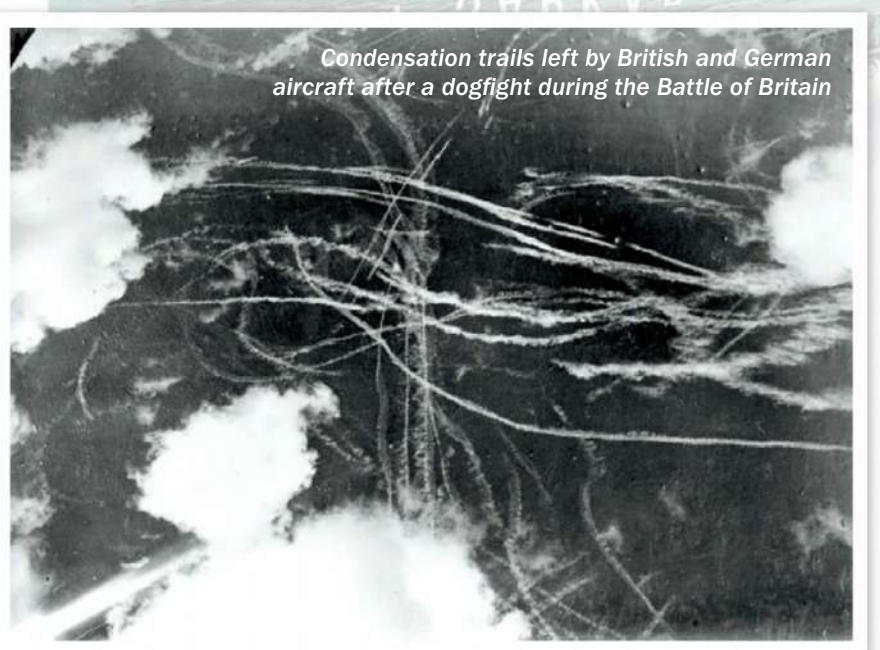
This year is the 80th anniversary of the Battle of Britain, and is likely to see a mass of new publications on the subject, adding to the hundreds if not thousands already out there. Dilip Sarkar has written more than a few himself, and his name will be familiar to most aviation enthusiasts. Many of these new works will doubtless cover the usual ground in telling the dramatic and historically important story of the battle, but in this book Sarkar has managed to find a fresh and interesting angle. He has selected 23 men and women from a range of nationalities and services who were killed during the Battle of Britain, and uses their lives and deaths to bring out the human dimension. He includes not just RAF fighter pilots (British, Commonwealth and European), but also other RAF aircrew, ground crew and members of the Women's Auxiliary Air Force. Uniquely he also includes an Indian merchant crewman who died of wounds after his convoy was attacked in the English Channel, two members of staff killed when the Supermarine factory in Southampton was bombed, and a German fighter pilot to round out his selection.

By selecting such a broad range of individuals, many of them from outside the ranks of 'the Few' (the recognised list of RAF fighter pilots who flew in the Battle of Britain), Sarkar brings many new angles to the story. Each chapter not only provides a well-researched biography of the individual(s), but also sheds light on their areas of work and personal viewpoints of the war. While the first chapter, a biography of a fighter pilot killed just before the traditional start date of the battle, also provides a potted history and overview of the battle as a whole, each following chapter also gives an insight into the background and experiences of a particular aspect of these historic events. In this way, the author includes a wealth of information on the battle by using their stories to also shine a light on particular units, nationalities, stations, aircraft, or sections of society. While famous figures such as Flight Lieutenant James Nicolson VC, Pilot Officer Billy Fiske, and Flight Lieutenant Bob Oxspring certainly feature, even the fighter pilots studied are generally lesser known or overlooked figures. The author also poignantly highlights the impacts of these losses on their families. Where appropriate he discusses the recovery and burial of the bodies, and the short and long term effects on their families.

Overall, the author has used an impressive range of material to bring these stories to life. Interviews with comrades and families, contemporary squadron records and combat reports, and many other sources are all brought together to form a rounded story of the battle. This 370-page volume is also well illustrated, indexed and includes a useful and comprehensive glossary. This book would be an interesting addition to any library. **SH**



Observer Corps aircraft spotter on the roof of a building in London during the Battle of Britain



Condensation trails left by British and German aircraft after a dogfight during the Battle of Britain

Images: Wiki / PD / CC

BRITISH AIRFIELDS OF THE SECOND WORLD WAR

AN EXCELLENT INTRODUCTION TO AN OFTEN-OVERLOOKED SUBJECT

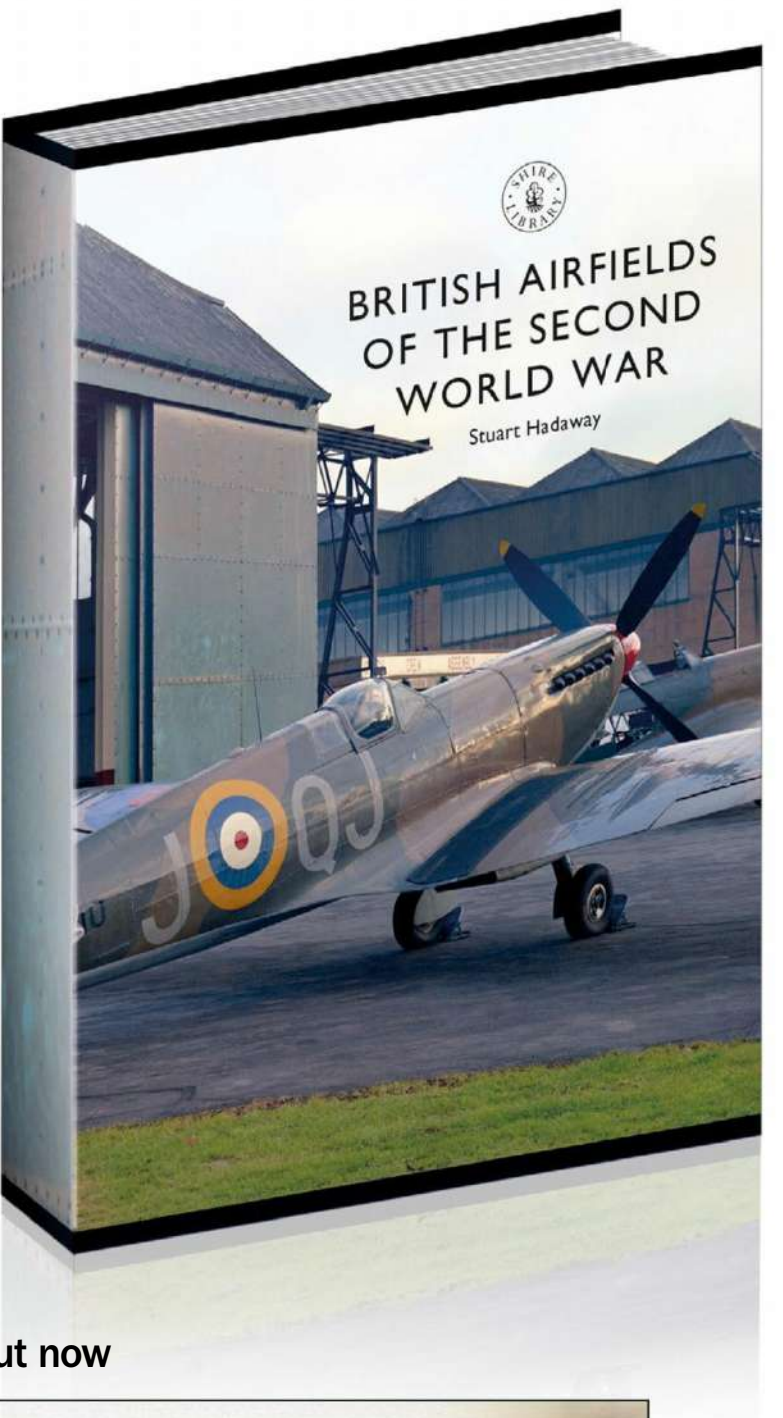
Writer: Stuart Hadaway **Publisher:** Shire Publications **Price:** £8.99

Anyone familiar with Shire Publications will know what to expect from this slim volume. *British Airfields of the Second World War* is the usual tightly focussed, well-illustrated work, which benefits from the strong writing skills of its author.

Stuart Hadaway is able to provide a thumbnail sketch of the most important elements of airfield history, using the limited space available to great effect. The reader is quickly taken from the genesis of the air base, during World War I, through the inter-war modifications and on into World War II. We are treated to some highly effective first-hand testimony, well chosen to illustrate a facet of RAF life that is sometimes overlooked in popular histories.

This is never more true than in the story told by a pilot during an attack on an airfield. Where most histories would focus on the exploits of the British fighters while in the air, this pilot paints a harrowing picture of life on the ground, as he waits for his fighter to be refuelled and rearmed by the tireless ground crews – all while under severe attack from German planes, "Not one of those magnificent men faltered for a moment in their tasks," Sergeant Iain Hutchinson, of No. 54 Squadron, recalled. "I was frankly relieved to be taking off again."

The only possible word of complaint, common with all of the Shire Publications titles, is that it is over too soon. It certainly whets the appetite for more and in this respect, the list of suggested further reading is very welcome. **DS**



SAS GREAT ESCAPES

SEVEN GRIPPING TALES OF DARING WWII MISSIONS

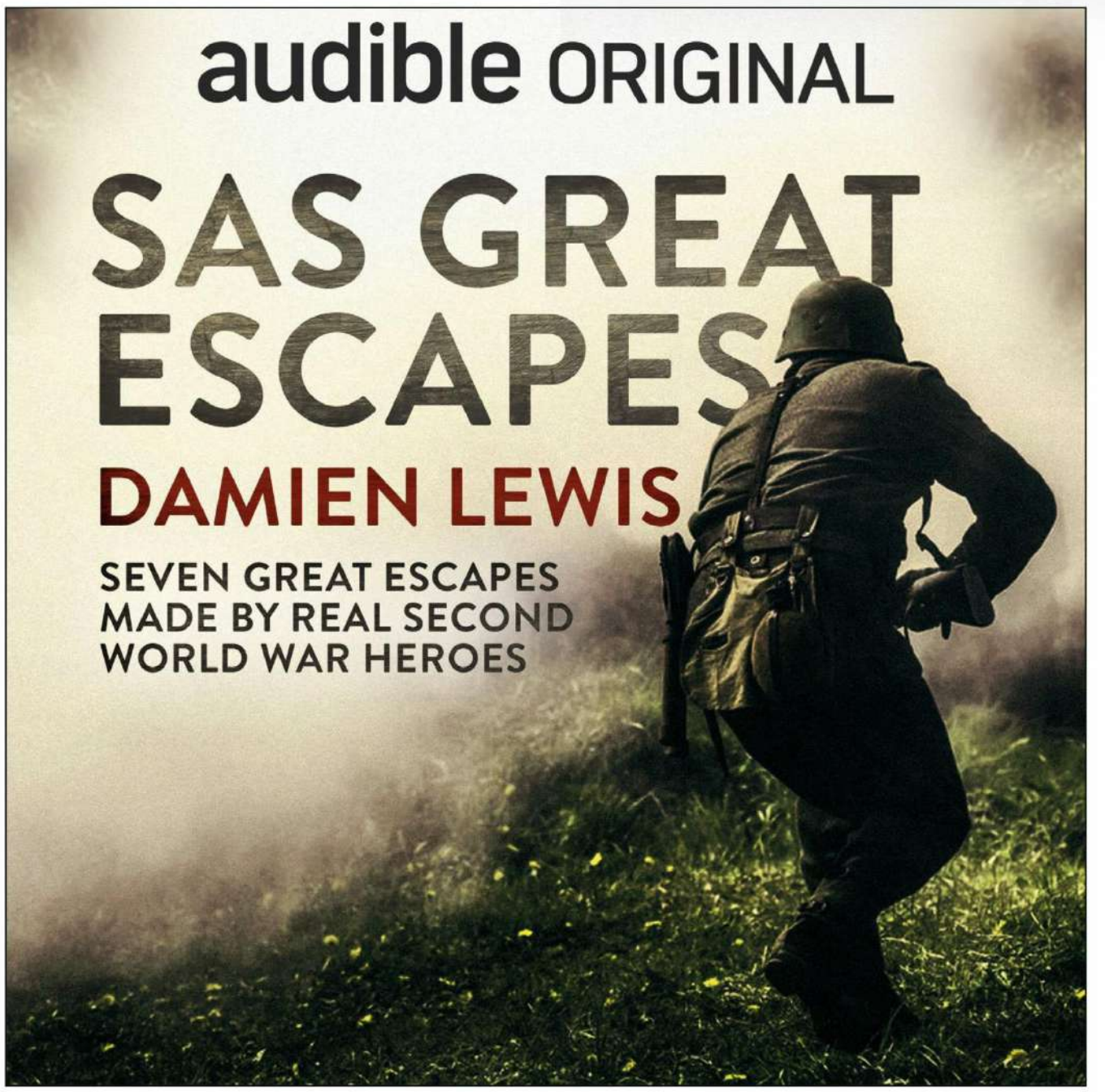
Author: Damien Lewis **Publisher:** Audible Studios **Price:** £14.99 **Released:** Out now

Stories of perseverance, determination and improvisation are common from the Second World War, but you'll find few as heart pounding, tense and fraught as those told in this gripping Audible exclusive audio book. Chronicling seven incredible SAS prisoner of war escapes, the tales that Damien Lewis has compiled here are not only extraordinary accounts of human endeavour, but also incredibly detailed and fleshed out stories of the individuals behind the events.

Lewis has written several books on the history of the SAS and British forces during WWII and all of his expertise and familiarity with the topic is on show in these stories. Each escape is treated as its own tale, quickly chronicling the life of its protagonist from birth to recruitment into the SAS, to their capture and then, in much more granular and engrossing detail, breaking down how they each hatched their escape plans, what tools and subterfuge they used and then how, having escaped, they often still had intense journeys to find safety.

As with Lewis's previous work, the writing here is highly accessible while also concentrating on the detail of his protagonists rather than attempting to set the wider scene of war. Similarly, the narration of this book by Leighton Pugh is light and smooth. A veteran of narration, Pugh's authoritative voice and light use of accents gives a reassuring authority.

The escapes detailed by this Audible exclusive are really quite amazing at times, exemplifying the mission and mindset of the SAS from the moment it was founded. **JG**

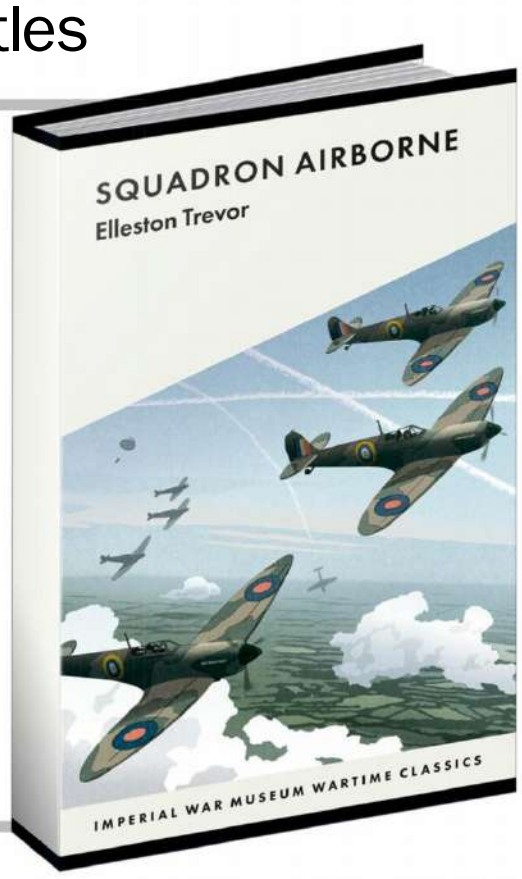


WIN

A SET OF IWM NOVELS

To commemorate the 80th anniversary of the Battle of Britain, Imperial War Museums is giving away a collection of its Wartime Classics books including two newly released titles

WORTH OVER £70!



SQUADRON AIRBORNE
Elleston Trevor

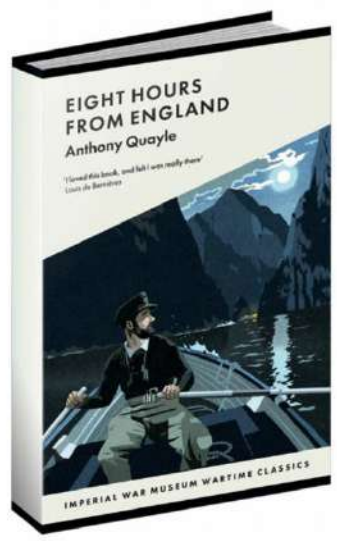
Squadron Airborne tells the story of Peter Stuyckes, a 19-year-old pilot officer, during one week of his service in a fictional Fighter Command station in 1940. The author, Trever Dudley-Smith, was himself an RAF flight engineer and was most famous for his 1964 novel *Flight Of The Phoenix* which was made into two Hollywood films. Due for publication on 10 September, *Squadron Airborne* is the latest in IWM's Wartime Classics series.

This issue, one lucky History of War reader will win a set of eight novels from the series, including *Squadron Airborne*. Take a look below for the other titles n the set, as well as how you can enter today!

For more information visit shop.iwm.org.uk

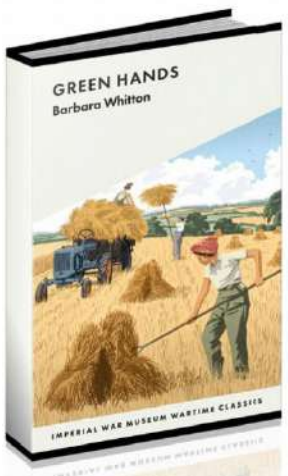
EIGHT HOURS FROM ENGLAND
Anthony Quayle

A candid account of SOE operations in occupied Europe from the renowned Shakespearean actor, director and film star based on his experiences as a Special Operations Executive behind enemy lines in Albania.



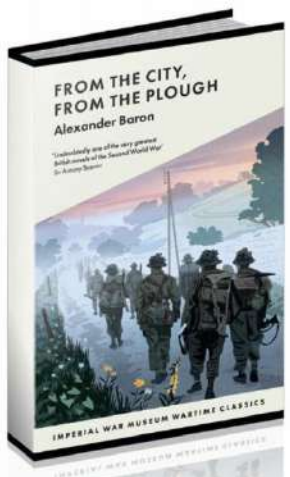
GREEN HANDS
Barbara Whitton

Published on 10 September Green Hands is a touching portrayal of life in the Women's Land Army in the Second World War, clearly based on the author's own experiences.



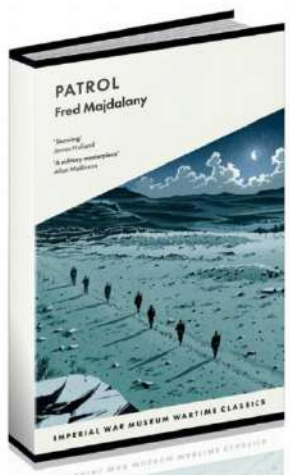
FROM THE CITY, FROM THE PLOUGH
Alexander Baron

A vivid and sometimes moving account of preparations for D-Day and the advance into Normandy.



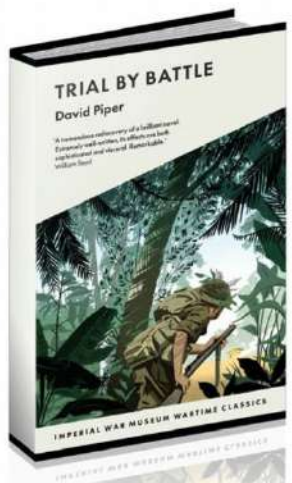
PATROL
Fred Majdalany

This novel follows the exhausted and battle-weary Major Tim Sheldon as he is tasked with carrying out a futile patrol mission.



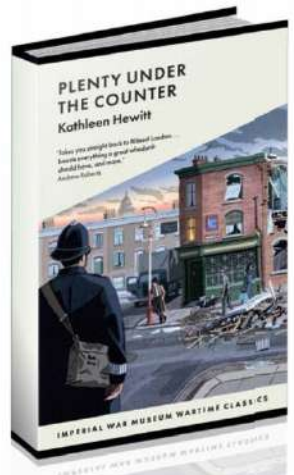
TRIAL BY BATTLE
David Piper

A quietly shattering and searingly authentic depiction of the claustrophobia of jungle warfare in Malaya.



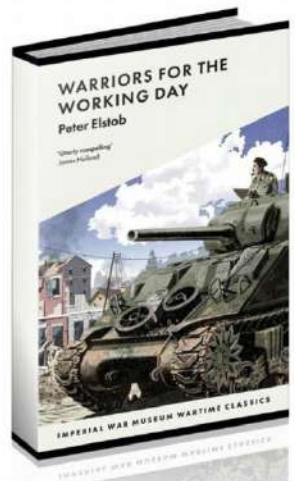
PLENTY UNDER THE COUNTER
Kathleen Hewitt

A murder mystery about opportunism and the black market set against the backdrop of London during the Blitz.



WARRIORS FOR THE WORKING DAY
Peter Elstob

Based on Elstob's own wartime experiences, this story follows one tank crew as they proceed from the beaches of Normandy into Western Europe.



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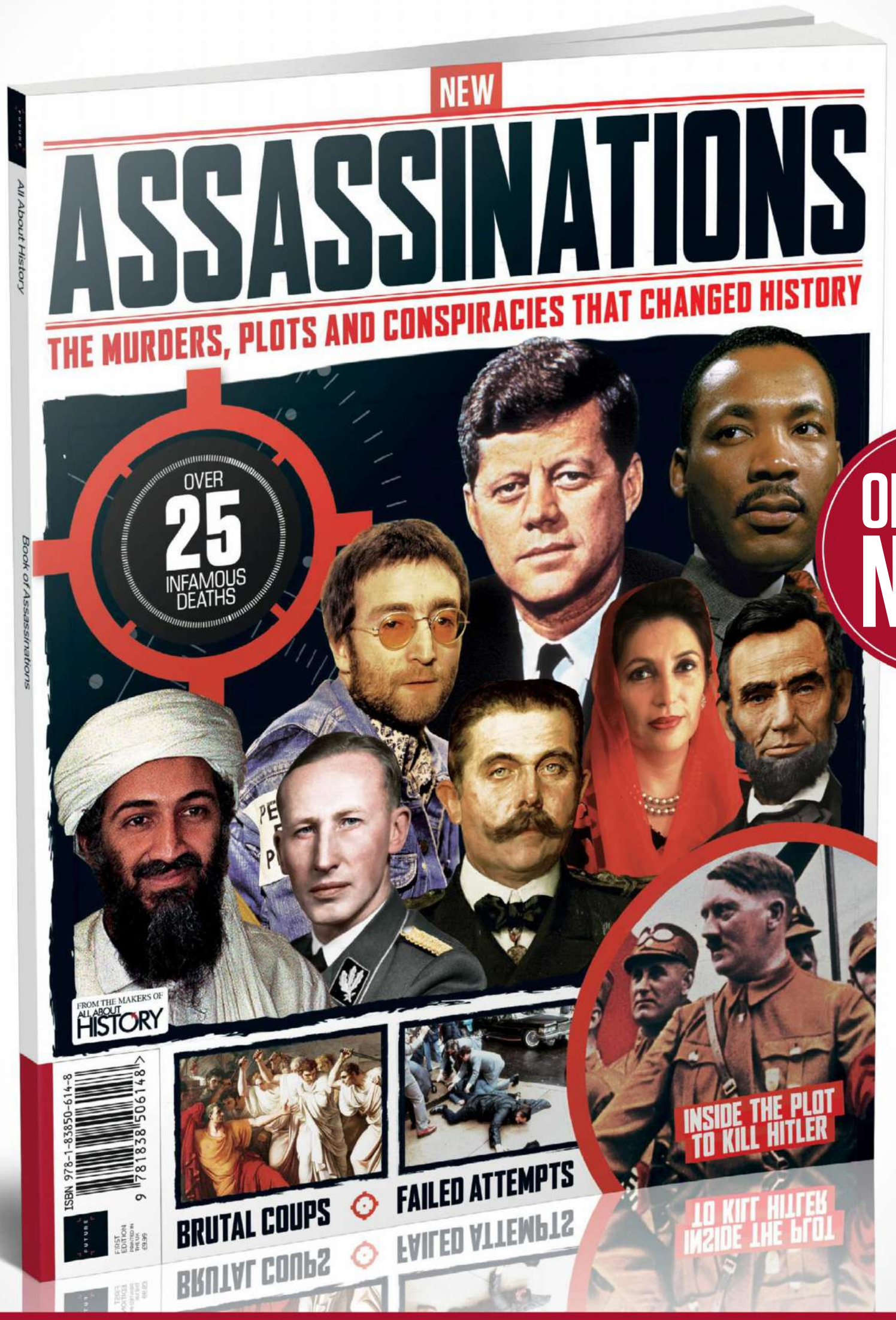

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MUNITION ARMOUR

During the Early Modern Period, newly formed standing armies mass produced cheap armour to protect large numbers of soldiers for the first time

In the Middle Ages, full suits of armour were a status symbol and mostly the preserve of the nobility. Common infantrymen wore some metal protection, which was usually a helmet, but for the most part only improvised pieces of chain mail or even padded leather jerkins offered protection from bladed weapons or missiles.

The success of large numbers of skilled Swiss infantrymen in the late 15th century changed perceptions about the value of foot soldiers, who had previously been largely regarded as expendable fodder. Professional standing armies were also now being created in Europe and the Early Modern Period saw the rise of plate armour that could be mass produced to supply protection to large numbers of ordinary soldiers. This was particularly urgent to counter the rise of artillery and firearms and the answer became known as 'munition armour'.

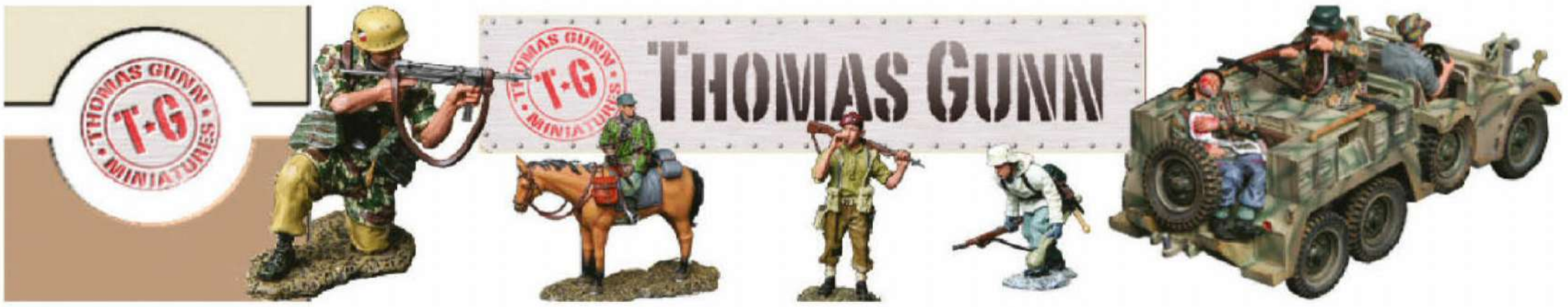
Officers would face the enemy wearing the best armour of hardened steel but munition armour was made from cheaper metal, which was usually iron. Ironically, inexpensive armour required more work and sometimes contained metal from more than one source. Phosphorus or sulphur was sometimes alloyed with iron with the former contributing to a slight increase in hardness. The use of phosphorus was often not deliberate and more due to the fact that coal was being increasingly used by armourers and blacksmiths.

Munition armour was produced in Early Modern Europe and Japan during the Sengoku Period (1467-1615). Its design was usually made to a standard pattern of interchangeable plates and was made for both infantry and cavalry. This pictured example comes from Savoy in what is now northwest Italy and dates from c.1600-1610. It was designed for armoured cavalrymen known as cuirassiers who were who were equipped with pistols and a sword.

"SKILLED SWISS INFANTRYMEN IN THE LATE 15TH CENTURY CHANGED PERCEPTIONS ABOUT THE VALUE OF FOOT SOLDIERS, WHO HAD PREVIOUSLY BEEN LARGELY REGARDED AS EXPENDABLE FODDER"

Source: Wiki / PD / CC

The Savoyard suit of munition armour is displayed in the military museum of Morges Castle in Vaud, Switzerland



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